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UNITED STATES RAILROAD ADMINISTRATION

DIRECTOR GENERAL OF RAILROADS

SURVEY AND RECOMMENDATIONS OF THE COMMITTEE ON HEALTH AND MEDICAL RELIEF

DIVISION OF OPERATION

WASHINGTON
GOVERNMENT PRINTING OFFICE
1920

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PREFACE.

The following report of the Committee on Health and Medical Relief of the United States Railroad Administration is recommended for the most earnest consideration of railroad officers and of Federal and State public officials in so far as such officers and officials have to do with the standard of health and sanitary regulations applying to railroads. This committee has been at work since September, 1918, and has labored diligently to improve health and sanitary conditions on the railroads of the United States. Its conclusions are the result of long study and a most comprehensive survey of the problem.

WALKER D. HINES,
Director General of Railroads.

INTRODUCTION.

September 25, 1918, the Director General of Railroads issued the following circular:

> The Committee on Health and Medical Relief for the United States Railroad Administration is hereby appointed, consisting of the following:
>
> Dr. D. Z. Dunott, Chairman.
> Dr. G. W. Cale, jr.
> Dr. Victor G. Heiser.
> Dr. T. R. Crowder.
> Dr. H. M. Bracken.
>
> The committee will establish an office in Washington and will conduct a survey of, and submit recommendations in connection with, the proper protection of the health of employees and patrons of the railroads under Federal control.
>
> W. G. McAdoo.
> *Director General of Railroads.*

The committee established an office in Washington, D. C., but was unable to begin active work before the latter part of November, 1918, due to the prevalence of influenza over the country, the members of the committee being engaged in the work of combating this terrible scourge.

Since November 22, 1918, the committee has held frequent meetings; has had referred to it through the Bureau for Suggestions and Complaints a large number of complaints received from the general public concerning the insanitary condition of stations, cars, shops, and toilets; this gave an excellent opportunity to investigate the conditions which patrons of railroads complained of, and we were able in many instances to suggest a remedy; also handled a number of health conditions that confronted the Railroad Administration to a satisfactory conclusion; and reported from time to time upon questions submitted to it by the Railroad Administration.

In order to familiarize itself with railroad conditions in so far as they applied, committee made surveys through questionnaires sent to all railroads under Federal control, and inspected railroad sanitary and health conditions in 32 States. Upon knowledge gained during these inspections and data procured through questionnaires, committee has based its recommendations.

The committee recognizes that probably its best service is along the line of preventive medicine and preventive surgery, which offers opportunity not only for humanitarian effort but will make possible greater efficiency and lessened cost in operation. Typhoid fever, smallpox, malaria, and hookworm are preventable from a practical standpoint, in fact the continuation of these diseases should not be tolerated. Reconstruction surgery is in its infancy, opening up a great field for research and betterment in the care of the injured.

The medical and surgical departments connected with the railroads offer unusual opportunity for the disseminating of information on these several subjects.

The committee acknowledges its appreciation of the hearty cooperation and support of the central railroad administration, the regional directors, Federal managers, and other railroad officials with whom we came in contact.

Dr. D. Z. Dunott, *Chairman.*
Dr. G. W. Cale, Jr.
Dr. Victor G. Heiser.
Dr. T. R. Crowder.
Dr. H. M. Bracken.

Dr. T. R. Payne, *Secretary.*

Exhibit A.

August 19, 1919.

Mr. W. T. Tyler,
Director Division of Operation,
Washington, D. C.

Dear Sir: The undersigned Committee on Health and Medical Relief was appointed September 25, 1918, for the purpose of conducting a survey of, and submitting recommendations in connection with, the proper protection of the health of employees and patrons of the railroads under Federal control.

On account of the influenza epidemic it was not possible for the committee to hold its first meeting until November 22, 1918; since that time the committee has held frequent meetings and has made investigations and reported from time to time upon the questions submitted to it by the Railroad Administration.

In order to familiarize itself with railroad conditions in so far as they affected its instructions, the committee has made surveys in many parts of the United States and has actually viewed conditions in the States of Massachusetts, Connecticut, New York, Pennsylvania, Delaware, Maryland, Virginia, North and South Carolina, Georgia, Alabama, Mississippi, Louisiana, Texas, Arkansas, Tennessee, Missouri, Ohio, Indiana, Illinois, Minnesota, North and South Dakota.

As the laws of the Federal Government and of the various States directly affect railroad conditions, the committee has conferred with officials of the United States Public Health Service and with many State health officers at the State capitals. It also has met, by invitation, with the Surgeon General's conference with State and Territorial health officers in Washington, June 5, 1919, at which time the chairman presented a paper.

On February 7, 1919, a tentative program outlining the work of the committee was submitted. The Director Division of Operation authorized the submission of this program to the regional directors. The transcript of the views of the regional directors and of some of the Federal managers is transmitted herewith.

The committee begs leave to submit in addition:

A complete set of sanitary regulations.

A set of rules governing physical examinations for railroad employees.

A memorandum in regard to rest houses.

A memorandum covering separation of claims and surgical departments.

A memorandum concerning privilege of trip transportation to local surgeons to attend medical meetings.

A memorandum concerning the control of malarial fever.

In compliance with instructions of June 17, 1919, in regard to first-aid kits, the committee submits herewith model outfit with directions for its use and maintenance, and an estimate of cost.

Correspondence covering recommendations of the committee regarding the practice of laymen making vision, hearing, and color examinations is submitted.

The committee believes that it would be to the best interests of the Railroad Administration if an opportunity were granted for an early conference with the Director Division of Operation, to discuss the various recommendations herewith submitted.

Respectfully,

D. Z. Dunott, M. D., *Chairman.*
G. W. Cale, Jr.
Victor G. Heiser.
H. M. Bracken.
T. R. Crowder.

P. S.—In view of the great importance of functional reeducation of injured railway employees mentioned in paragraph 1 of the committee's working program, the committee desires the opportunity of discussing this subject with the Director Division of Operation and the regional directors, following which it will make its report and recommendations.

Exhibit B.

SUMMARY OF COMMENTS BY REGIONAL DIRECTORS AND FEDERAL MANAGERS OF THE SOUTHWESTERN REGION TO PROGRAM OF THE COMMITTEE ON HEALTH AND MEDICAL RELIEF OF THE UNITED STATES RAILROAD ADMINISTRATION.

Program.

Par. 1.—Reconstruction.	Pars. 2 and 6.—Vaccination.	Par. 3.—Malaria.	Par. 4.—Claims.	Par. 5.—Transportation.	Par. 7.—General Sanitation.	Par. 8.—Venereal.
Reconstruction of injured employees with the view of returning them to their former positions, or to useful employment in line of their training. (b) Consider constructing or establishing reconstruction hospital facilities at strategic geographical locations. Necessity for giving this matter consideration is shown by figures of personal injuries in Interstate Commerce Commission reports.	Consider the advisability of chief surgeons taking up with the State health officials systematic vaccination of all railroad employees. Reasons for this: General spread of smallpox throughout the United States. Antityphoid inoculation to be dealt with in a similar manner to smallpox vaccination.	The control of malaria in the Southern States. Reason for this suggestion: Serious economic loss among railroad employees from malaria, and endangering health of patrons. The advisability of control measures is demonstrated by the experience of the Cotton Belt Railway. Very generally due to embankments impounding water and accumulation of water in borrow pits.	The advisability of separating the surgical from the claims department of railroads. Reasons: (a) The claims department having control of the surgical department is prostituting the medical profession. (b) The claims department is not in position to judge as to type of surgeon who should be employed. Claims department's interest would naturally be based on capacity of surgeon to settle claims. (c) That even where capable surgeons are in this service that any opinion they may express in connection with injury in a damage suit is vitiated by the fact they report to the claims department, and the confidential relationship that should exist between the patient and his doctor is destroyed.	The advisability of arranging for trip transportation privileges over foreign lines for company surgeons. It is highly desirable that surgeons be encouraged to attend medical and surgical meetings; by so doing they will materially increase their efficiency as railway employees. The pass as a basis of compensation should be eliminated. A standard fee table as a means of paying surgeons for services rendered should be established.	General sanitary improvement in connection with railroad stations, shops, cars, and office buildings.	Cooperate with the Public Health Service in its propaganda against venereal diseases.

Table showing the number of Regional Directors approving or disapproving each paragraph of program of Committee on Health and Medical Relief.

Approve..... 6	7	5	6	5	7	7
Disapprove.. 1	.....	.....	1	1	.....	.....

C. H. MARKHAM—ALLEGHENY REGION.

(Par. 1.)	(Pars. 2 and 6.)	(Par. 3.)	(Par. 4.)	(Par. 5.)	(Par. 7.)	(Par. 8.)
Regarding rehabilitation of injured employees so that they may be useful in some occupation other than the one to which they are assigned: It is the practice on most of the railroads where an employee is so badly injured that he can not return to his regular occupation to provide some work suitable to his condition. In many instances efforts have been made during the time of convalescence to have the injured employees fit themselves for other positions, but as there is no way to compel employees to educate themselves along lines other than those in which previously engaged, this has not always been successful, but in many instances the men have learned telegraphy. Generally, efforts have been successful in finding work for injured employees that they could do, and this practice should be continued, although seniority rules sometimes make it difficult to find positions for such employees.	Unless vaccination and antityphoid inoculation is made compulsory by the passage of suitable laws, it would be impossible to compel employees to do so. The general practice on most of the railroads is when employees are examined for employment, if they have not already been vaccinated, to offer to do so without cost to the employee. Some do not believe in vaccination and decline. As to antityphoid inoculation, it has been the practice on some of the lines to have their medical examiners, upon request, to inoculate employees and their families without cost, but as in the case of vaccination, it would require compulsory laws to compel any employee to be vaccinated or submit to antityphoid inoculation. The present health laws in some of the States provide for quarantining where a person has been exposed to smallpox and refuses vaccination.	Hardly applies to the lines in this region, as the employees are practically immune from hookworm and malaria by reason of geographic location.	I quite agree with your suggestion that the surgical work would not be under the jurisdiction of the legal department, and on many of the railroads the surgical department is entirely separate from the claims department.	Where there is a considerable amount of work, a stated salary is generally paid the local surgeon, but in locations where the surgeons only handle emergency cases, and these cases are very few, transportation is given in lieu of fees. I think it would be advisable to continue this practice.	I am very glad to see what the Committee is doing with respect to having uniform health laws. If this could be accomplished, I believe it would bring about very beneficial results.	Regarding propaganda against venereal diseases: This covers a very wide field and anything that could be done to lessen infection and give proper treatment to those who become infected, I believe would bring about good results.

You and your Committee can rest assured of my personal interest and support, and when you feel that I can be of assistance in any way, I hope you will not hesitate to call upon me

B. F. BUSH—SOUTHWESTERN REGION.

(Par. 1.)	(Pars. 2 and 6.)	(Par. 3.)	(Par. 4.)	(Par. 5.)	(Par. 7.)	(Par. 8.)
I am heartily in accord with this and feel that through some definite plan of procedure the railroad hospitals should be able to obtain outstanding results by utilizing their present facilities as much as possible and by cooperating with existing hospitals in the larger cities, many of which have adopted modern methods during the war for treatment of injured persons generally.	The attitude of the employees with respect to compulsory vaccination would necessarily have to be considered. The understanding is that measures of this nature are fully covered by local health regulations of States and communities as appears necessary or desirable, which, of course, is applicable to railroad employees as well as all other residents of such communities.	The control of malaria in the Southern States is a matter that has heretofore demanded attention of the hospital organizations and considerable has been accomplished.	Do not believe that the claims departments should dominate the hospital or surgical forces, and this practice is not in effect in the Southwestern region.	Recommend furnishing trip transportation over system and foreign lines to railroad surgeons who desire to attend medical conventions, as the information they would, no doubt, secure by such attendance would be beneficial to both the railroads and railroad employees.	Sanitary conditions in connection with railroad stations, shops, cars, etc., is very necessary, and a majority of the lines are doing everything possible consistent with existing conditions to improve them from time to time. The great variety in character of structures on the different railroads would appear to make it difficult to establish standard regulations that could be enforced at all points, but, no doubt, the issuance of general instructions by the Committee as to conditions that should be sought for might be productive of good results.	The railroads are cooperating with the Public Health Service in this respect.

R. H. AISHTON—NORTHWESTERN REGION.

I am very much interested and approve the suggested outline of the work and believe a great deal of good can be brought about by advancing the interests of the railroad employees. Paragraphs 6, 7 and 8 are commended, and while the work is entirely for the welfare of the employees, the average layman will not be impressed with its importance until after a general campaign and educational period. You may be assured of active interest and support from this region.

HALE HOLDEN—CENTRAL WESTERN REGION.

Your memorandum raises a number of important questions, as to some of which I do not have at hand sufficient information in order to enable me to express an intelligent opinion. For instance, in this territory I have no data nor advice as to malaria due to stagnant pools of water chargeable to railroad conditions. In certain localities considerable vaccination has during the past two years been carried on although, at times and as to certain individuals, opposed, as is usual in such movements. By cooperation with local health authorities, however, the situations apparently needing attention have been handled in a reasonable manner. I would anticipate more opposition against compulsory antityphoid inoculation, but this is a matter of general education as to which progress is rapidly being made. As to the necessity or desirability, however, of enforcing it among all railroad employees, I do not feel in a position to express an opinion now. So far as my personal observation goes, I have not felt that the surgical departments have been controlled by the claim and legal departments in the manner suggested, although it is likely that there may be local conditions and individual cases of the character referred to. As to these and other matters referred to I am very glad to assure you of my interest and support in any reasonable measures which may be adopted toward the betterment of conditions.

N. D. MAHER—POCAHONTAS REGION.

I think the matter is well outlined and I believe that good results will follow from the work you have in anticipation.

B. L. WINCHELL—SOUTHERN REGION.

I believe you are already assured that I am desirous of going along with you and your Committee in every possible way. Count upon us to the limit, please.

A. H. SMITH (NOW A. T. HARDIN)—EASTERN REGION.

(Par. 1.)	(Par. 2 and 6.)	(Par. 3.)	(Par. 4.)	(Par. 5.)	(Par. 7.)	(Par. 8.)
At the time Congress was considering a bill to undertake the work of rehabilitation of soldiers and sailors on a large scale, endeavor was made to have the act include industrial cripples. It would appear that this problem is properly one of hospitals in the larger cities adopting modern methods, many of which have been devised during the war, for the treatment of injured persons generally rather than the establishment by the railroads of hospitals especially for their employees. We have considered men out of service when injured, but have permitted them to continue in the usual capacity when able, and in the majority of cases of permanent partial disability have found suitable employment for them.	It is my understanding that measures of this nature are covered by the local health regulations of States and communities as appears necessary or desirable, which, of course, cover railroad employes as well as all other residents of such communities.	No comment, as this item refers to the Southern States only.	It is not suggested to what department the surgeons would report it separated from the claims department of the railroads. The officers and employees of the claim forces are the ones who come in contact with the surgeons and the persons whom they treat, and the members of the claim department are generally the only railroad representatives that the surgeons see aside from injured employees. The claim agents are in touch with the local situation and are in the best position to know whether the services rendered by the surgeon to employees and to other persons whom he cares for are satisfactory. It has been the experience that surgeons generally prefer to work under and in connection with the claim department rather than under a chief surgeon or with any other of the departments of the railroad. Close cooperation by the surgeons with the claim department is vitally necessary. It is thought that surgeons generally would resent the accusation that their connection with the claims department is "prostituting the medical profession." The railroads in the eastern region have in their service a large number of surgeons, many having been with the various companies for a long period of time, standing high in their profession and in their communities. The selection of surgeons for railroad service is, as a general proposition, only made after a personal investigation and inquiry of the business men and local railroad people of the community as to the standing of the surgeons and, where there is a chief surgeon, after consultation with him as to the ability of the applicant, the appointment being made only with the approval of the chief surgeon, the chief operating officer, and the general claims attorney. It rarely occurs that it is necessary to remove such an appointee. The capacity of a surgeon to settle claims has no bearing whatever on his selection. Surgeons are not employed as claim agents, and it is not desired or permitted that they shall negotiate settlements. In fact, they are rarely consulted as to the money settlement in a case and usually have no information as to this feature, it being the business of the claim agents to handle	As a general matter, surgeons are furnished with transportation on the roads on which they are employed and in exceptional cases on other interesystem roads to enable them to reach centers where medical and surgical meetings are held, which it is thought can generally be done without a general exchange of transportation between all lines. It has not been considered that the passes furnished were given as compensation, although, of course, surgeons as well as other persons employed by the railroad consider the pass privilege a valuable one and that its possession has some influence for continued service. In regard to the suggestion that a standard fee table be established as a means for paying surgeons for services rendered, until recently two of the larger roads in the New York Central system had a fee basis for compensating surgeons which proved unsatisfactory, having resulted in more or less friction between chief surgeons and the surgeons as to the amount of their bills. To correct the trouble, all contracts were changed from a fee to a salary basis, no difficulty having been experienced in effecting this change to the satisfaction of the surgeons.	It is believed that generally all new railroad structures are designed with consideration of necessary sanitary measures, and State and local regulations now provide for certain provisions in this respect. The great variety in the character of structures on the railroads would appear to make it difficult to establish standard regulations that could be enforced at all points, but undoubtedly the formulation and issuance by the committee on health and medical relief to the railroads of general instructions as to the conditions that should be sought for, after the committee has made its study of the subject, might have good results from an educational standpoint.	The railroads are now cooperating with the Public Health Service in this respect through the posting of notices in men's toilet rooms in stations and cars.

such matters. I believe it will be obvious to you that the surgeon renders much more valuable service to the railroad by proper treatment of the injured and by securing good results and as speedy a recovery as possible than by any alleged service in connection with the settlement of a claim: in fact, no other department has any greater interest in the prompt and complete recovery, if possible, of those that are injured than the claims department. Where legal proceedings are necessitated by the injured, the surgeons are merely asked to give the facts to the claim department and to use their best judgment as to the probable results of the injury and time of disability in order that the claim department may be fully advised as to the facts before going into court with the case. With regard to feature "O" of item 4, it would appear doubtful whether the question as to what department the surgeon reports to has anything to do with the value of his opinion as to injury in the trial of a case. In most instances where there is any conflict in the medical testimony an examination is had by an outside surgeon. As a general proposition the fact that a surgeon is in the employ of a railroad is in itself detrimental on a trial, and it is immaterial to what department he happens to report. It is not clear just what is meant by "the confidential relationship that should exist between the patient and his doctor is destroyed," nor what difference it can make what department a surgeon reports to with regard to such confidential relation. The knowledge that the surgeon secures in the treatment and examination of the injured person must necessarily be given to the claim department, and as you are aware in the trial of a case if the plaintiff insists on it the confidential relation is sustained.

F. G. PETTIBONE—FEDERAL MANAGER.

(Par. 1.)	(Par. 2 and 6.)	(Par. 3.)	(Par. 4.)	(Par. 5.)	(Par. 7.)	(Par. 8.)
Reconstruction of injured employees would be an excellent idea were the railroads to remain under Government control. If the roads are returned to private ownership, it would be practical for the railroads only in case a group of roads representing a very large mileage should join their efforts and provide ample funds for reconstruction work.	Compulsory vaccination against smallpox and typhoid fever by cooperation of State boards of health should be approved without reservation. This work can be cared for by the hospital organizations now existing when State boards of health have authority to push it and give proper support.	Malarial control along railroad lines could be made very valuable should the railroads assume the expense of abolishing all stagnant pools of water near the homes or sleeping quarters of their employees. The control of hookworm can probably be better managed by State health boards.	Relative to the advisability of separating the surgical and claim departments of railroads, Sections A and B do not apply to the Santa Fe lines. Section C regarding reports of the surgeon to the claim department of the railroad the proposal of the committee should not be approved. The present practice should in no way violate the confidential relations existing between the surgeon and any honest and fair-minded railway employee. If the surgeon is of the right kind, he should be so true and impartial in reporting his findings that his confidential relationship with the desirable employee should in no way be impaired. To endeavor to retain confidential relationship with a dishonest employee should not be attempted by declining to report facts to the claim department of the road, which constitutes the first and sometimes the only line of defense a road has against imposters. The smallest part of a surgeon's work pertains to his testimony in damage suits, where of course his opinions are often discounted in some measure. However, our opinion is that much more is gained by the railway company being made acquainted promptly with all the facts known both to patient and surgeon. Where claims against corporations are contemplated, secrecy of any kind should not be tolerated.	The advisability of arranging for trip transportation for local surgeons over foreign lines as an educational feature is entirely practicable and will no doubt increase efficiency. I do not think it possible to eliminate the pass as a consideration of compensation and make cash compensation fair and reasonable without greatly increasing the funds necessary for the operation of the hospital department. Standard fee tables without other means of compensation are usually low and a source of humiliation and discontent to the surgeons who accept them. Reasonable pass privileges for work of a limited character plus reasonable cash payments for more extensive work, taking due consideration for the professional ability and worth of the doctor who renders the service, is much more satisfactory to the medical profession and conducive to more interested and efficient service to the railway company. The experience and professional ability of the different surgeons along the line of a railroad, are by no means of equal value, and can not be justly regulated by a standard fee table. Should an equitable fee table be arranged upon the basis of the highest degree of skill attained by a few of the best educated and trained doctors on the staff, it would be excessive and prove almost prohibitive if applied to all.	The committee's proposal concerning general sanitary improvements should be approved. It has been the practice for the lines in this group to endeavor to carry out the necessary precautions to see that our stations, shops, office buildings, etc., are maintained in sanitary condition.	The committee's proposal to cooperate with the Public Health Service in its propaganda against venereal disease should be approved.

W. B. SCOTT—FEDERAL MANAGER.

(Par. 1.)	(Par. 2 and 6.)	(Par. 3.)	(Par. 4.)	(Par. 5.)	(Par. 7.)	(Par. 8.)
While, of course, the medical department is vitally interested in the reconstruction of seriously injured employees to enable them to continue in service, it is also a part of the safety work and could not be successfully handled through our hospital organization further than is now being done, which includes the application of artificial limbs, eyes, etc., for the reason that only a small percentage of employees are permanently disabled, which would hardly justify the outlay in equipment and appliances required. It is suggested that if arrangements could be made, probably through State or municipal health or other authorities, to establish reconstruction hospitals at principal points, it would more efficiently, economically, and generally satisfactorily take care of the situation. Again, it has been our experience that a large number of employees who are permanently disabled make settlements by court proceedings or otherwise which are so far from satisfactory that it is prohibitive to consider reemployment, even in a less hazardous position.	It is believed the suggestion for compulsory vaccination and inoculation for typhoid and other diseases is a good one, although it is a proceeding which for apparent reasons can not be applied by the Railroad Administration without the action of State or municipal authorities which would be applicable to all citizens of a community.	Much can be done by the railroads in the matter of eliminating malaria, but without an intensive campaign which will interest all communities to a degree of intensive action it is thought that very little concrete results would obtain, especially in sections like Louisiana and southeastern Texas, where railroads run through large sections of swampy land, and to drain right of way would prove exceedingly expensive and would in return avail little unless the communities and adjacent land were likewise drained.	It is not our practice to appoint local physicians or surgeons because of their capacity to handle employees from a claim standpoint, in fact this ability is not taken into consideration in any instance.	Suggestions applying to trip transportation over foreign lines to enable attending surgical meetings outside of their own territory is considered a good one. With respect to passes, as a basis of compensation, it is our belief the local surgeons at smaller stations when given a pass for their services are the best paid men we have, due to the fact that only a few cases are treated by them. It is understood, however, that special services, that is, calls of long distances, attending wrecks, etc., carry special compensation and bill is rendered for loss of time. At larger stations and division points, an approximate close estimate of necessary work can be made and a monthly salary appropriately established.	All structures in which employees are quartered could, it is true, be screened and immediate premises maintained in a sanitary condition, but it is doubtful if employees using these facilities would take sufficient interest in the matter to keep screens closed and effectually keep out flies and mosquitoes. Some improvement in conditions might be made by draining ponds in neighborhood of sleeping quarters, those that it would not be practicable to drain might be treated with a little fuel oil; water cars could be occasionally steamed out and this would probably go a long way toward reducing malaria, although to secure the maximum benefit from such a course would require a uniform and severe sanitary program on the part of the various State, county and city health officers.	Cooperation with Public Health Service is highly essential and railroads passing through communities where no rules concerning health and sanitation are in effect are seriously handicapped.

A. S. JOHNSON—TERMINAL MANAGER.

In so far as recommendations submitted pertaining to sanitation of property and facilities, their improvements and maintenance, are concerned, I feel that the committee should be rendered every assistance possible as there is unquestionably room for improvement along these lines. It appears to me, however, that recommendations of this committee, relating to medical treatment of individual persons, particularly paragraphs 2 and 6, are doubtful expedients. A very large and constantly increasing number of people no longer accept the efficacy of vaccination or inoculation either as preventives or remedies, and the doctors themselves are hopelessly divided on this subject, in view of which any recommendation or propaganda intending to compel the individual employees, regardless of their convictions, to submit to inoculation or vaccination as a condition precedent to employment, is, I think, a step beyond that which could possibly have been contemplated by the administration in its appointment of this committee. Such matters are inherently ones of individual choice. Any means which will restore to usefulness those unfortunates who have been incapacitated through accident should be encouraged, and if the reconstruction hospital can accomplish this, it might be well to establish them at convenient points.

J. A. EDSON—FEDERAL MANAGER.

(Par. 1.)	(Pars. 2 and 6.)	(Par. 3.)	(Par. 4.)	(Par. 5.)	(Par. 7.)	(Par. 8.)
The suggestion is a good one and such an institution should be geographically located to serve the greatest number of railroads in a given territory. It might also be well to give consideration to utilizing a hospital of this kind for taking care of, in addition to railroad employees, soldiers, persons injured in railroad and other industrial accidents. In this way I think the work could be done more effectively and economically being on a larger scale than would be the case if it was operated solely in behalf of the railroads or some other class of industry.	I think all will agree on the effectiveness and desirability of such vaccination. Compulsory vaccination is now required in many public schools and employees and inmates of various institutions, and compulsory vaccination of railroad employees would, of course, tend to bring about the same result. The attitude of employees with respect to this plan would, however, have to be considered.	All departments of the railroad as well as the general community, I should think, would be greatly interested in this subject. The results shown in Dr. Dunott's letter appear to be very encouraging.	Of the lines under my jurisdiction the Kansas City Southern is the only one having an employees' hospital association. Our surgeons are appointed by the chief surgeon who in turn is chosen by the hospital association, whose board of trustees contains an equal number of officials and employees. The association is in no sense under the jurisdiction of the claim department and I do not believe there is any feeling among the employees at the present time that such is the case. Where the surgical and claims departments are consolidated it might be well to have them separated. The reasons for such separation, however, as outlined in the memorandum do not apply on lines under my jurisdiction.	With reference to granting trip passes to local surgeons, I think if such an arrangement can be made it will be of considerable benefit to the railroads in that they will be able to secure higher class of surgeons at various points. This privilege should be in addition to any compensation the surgeon would receive as I am not in favor of issuance of transportation as a basis of compensation. As indicated in the memorandum, this practice would enable surgeons to attend the medical and surgical meetings, thereby increasing their efficiency. Anything which increases the efficiency of a medical man promotes the health of the community in which he lives, increases the earning power of the nation as a whole, and is conducive to the best interests of the country. However, in view of the ruling of the Interstate Commerce Commission it may be desirable to have an order issued by the Director General making a uniform regulation on all lines. With reference to compensation, all of our division surgeons now receive a regular salary. Some of the local surgeons, however, are placed on the basis of free transportation in return for their services.	I am heartily in favor of the suggestion for general sanitary improvement in connection with railroad stations, shops, cars, and office buildings and we have always endeavored to improve the sanitary conditions around stations, office buildings, and in trains to the highest point and we will continue to do so.	I think the subject should be taken up vigorously by educational measures. The general public is, of course, as much interested as the railroads and it is to the best interest of all that full cooperation be given to the Public Health Service. Some States have been for some little time conducting a vigorous campaign along this line.

J. L. LANCASTER—FEDERAL MANAGER.

I have no criticisms to offer to any of the proposed items in the program submitted by Dr. Z. D. Dunott. In my estimation the plan as outlined is a good one and if put into effect it would greatly benefit the general health of all classes of employees (as well as others) and would greatly aid in their efficiency.

C. N. WHITEHEAD—FEDERAL MANAGER.

(Par. 1.)	(Pars. 2 and 6.)	(Par. 3.)	(Par. 4.)	(Par. 5.)	(Par. 7.)	(Par. 8.)
Employees of these lines have hospital associations which operate their own hospitals. From 90 to 95 per cent of men who are injured in the service and treated in our hospitals are in position, when discharged, to do some kind of work and are taken care of by the railroad in some capacity. There are some employees, however, who prefer to go to court with personal injury cases, and of course when this is done they virtually divorce themselves from the railroad and its influence.	We have been following the practice of vaccination for years and it would be carried out in a more thorough manner if the employees would submit to it. There is incorporated in our rules a provision that all employees who are required to undergo a physical examination before entering the service shall show a satisfactory scar, or be vaccinated. This feature of the examination became so objectionable and resulted in so many applicants declining to enter the service, it was found necessary, during labor shortages, to waive the vaccination and, at this time, very few men are being vaccinated, except upon their request. There have been but few requests for the anti-typhoid inoculation, all of which have been granted. It is thought that we would be making a mistake by requiring compulsory vaccination of any kind and that probably this could best be handled through the Public Health Service and State boards of health which bodies might inaugurate a system which could be carried out along these lines. We are in favor of something of this sort and would cheerfully cooperate in this work.	The remarks regarding malaria are not of special interest to us. We have very little on these lines and none of it in the aggravated form.	The medical and surgical departments are not under the direction or supervision of either the claim or the legal department, and have no more intimate connection with them than is ordinarily the case with two departments in any organization. The chief surgeons are responsible to the board of trustees of the hospital association.	We believe that the question of arranging for trip transportation for company surgeons for the purpose of attending medical and surgical meetings is a proper step. As to the elimination of the pass as a basis of compensation on our lines, there is a regular fee system in operation and all local surgeons in addition to securing transportation privileges are paid liberally for work done.	This paragraph requires no comment until there has been submitted a copy of the rules agreed upon by various health organizations. We have taken some action along these lines in the way of screening outfit cars.	While some cooperation should probably be given in the matter of complaint against venereal diseases, we, at this time, decline to admit and treat cases of this character at the expense of the hospital association.

W. N. NEFF—FEDERAL MANAGER.

(Par. 1.)	(Pars. 2 and 6.)	(Par. 3.)	(Par. 4.)	(Par. 5.)	(Par. 7.)	(Par. 8.)
We are all of us in hearty accord on this subject, but I feel that our own hospital facilities make it inadvisable for us to contribute to new hospital construction elsewhere for this purpose.	Vaccination for smallpox, and against typhoid has been done for some time by our medical department and will be continued.	The comments of the committee on the malaria control work are very gratifying.	I agree with them that the surgical and claim departments of the railroads should be separate, but I feel that we have already assumed this attitude on our lines so far as it is practical.	There is no question about the advisability of arranging trip transportation for local surgeons on foreign lines, and if possible for their wives.	This has already been advised by both the sanitary engineer and myself, and is being carried out to some extent.	We are probably the only railroad in the United States where efficient cooperation with the Public Health Service in its venereal campaign is being carried out.

A. ROBERTSON—FEDERAL MANAGER.

(Par. 1.)	Pars. 2 and 6.)	(Par. 3.)	(Par. 4.)	(Par. 5.)	(Par. 7.)	(Par. 8.)
It would seem advisable that provisions should be made by certain groups of railroads to establish reconstruction hospitals or arrange for the use of such facilities which may be developed by other industries or communities, with a view to returning disabled employees to service in some capacity.	It is the view of Chief Surg. Vasterling that State boards of health and the United States Public Health Service should require compulsory vaccination to prevent spread of smallpox, typhoid, etc., but there would, no doubt, be considerable opposition to requiring this of railroad employees, unless it was made the general rule throughout the entire country; consequently it would probably not be advisable that such rule be compulsory until all railroad employees are required to be vaccinated.	The maintenance of a sanitary department by railroads, to guard against and correct unsatisfactory conditions which breed malaria, etc., is a step in the proper direction and is recommended.	On the Missouri Pacific surgeons are not under the control of the claims department; consequently no change is recommended in our present practice.	Recommend the furnishing of trip passes over system and foreign lines to railroad surgeons who desire to attend medical conventions, etc., for educational purposes, as the information they would secure by such attendance would be beneficial to the railroad and its employees.	The general sanitary improvement in connection with railroad stations, shops, cars, and office buildings is fully realized and the matter is receiving attention by officers of the road, especially as regards clean, wholesome drinking water in stations, shops, and cars, the cleaning out of pits in roundhouses, proper drainage, care of toilets, etc., and we are cooperating with the public health authorities in removing stagnant pools along right of way, but a sanitary department, as recommended in paragraph 3, would be helpful.	It is thought State boards of health and United States Public Health Service will in time enforce compulsory treatment of venereal diseases, and cooperation therewith seems desirable.

J. S. PYEATT—FEDERAL MANAGER.

(Par. 1.)	(Pars. 2 and 6.)	(Par. 3.)	(Par. 4.)	(Par. 5.)	(Par. 7.)	(Par. 8.)
Believe each railroad hospital should establish a reconstruction department, with necessary facilities and competent talent to apply modern methods developed during the war, for such cases as require it.	It is not clear to me just how we could enforce a systematic vaccination of all railroad employees without applying the same rule to anyone who travels constantly, and there are many who do so in the regular course of their occupation.	This is a large question, and if material results are accomplished, the expenditure of a great deal of money will be required. In many sections of the South the lack of drainage makes impossible at present the disposition of water accumulated in borrow pits, etc. I think corrective measures can be carried out at many places, especially in the vicinity where men are living or working, with good results, and should be done. Also that cars and houses where employees sleep, and buildings where they work, could be screened, as is generally done at present, with benefit.	Where claims departments dominate the hospital or surgical forces, I think it should be discontinued for the reasons stated. No such condition exists in the hospital association of this road.	I am in favor of granting transportation privileges to certain surgeons that perform important work for the hospitals, to enable them to attend medical and surgical meetings, but do not believe such a rule should be general, as many of the surgeons do but little work, and to extend such a practice to all surgeons would mean issuance of a great deal of such transportation. I am not in favor of abolishing all passes as a basis of compensation, believing that the hospitals obtain services cheaper for pass privileges than they could by payment of money, and that if fees were paid, in most instances the present assessment would be insufficient to meet the expenses.	Believe this should be done where necessary.	Believe this should be done.

Exhibit C.

Questionnaires concerning the medical service on railroads were sent out to all railroads under Federal control, and replies have been tabulated and are herewith exhibited.

This tabulated statement is the basis for many of the recommendations which have been submitted to the Railroad Administration.

Questionnaire 1.—Eastern Region.

1–2. Name of railroad. Location of general office.	Ann Arbor R. R., Toledo, Ohio.	Bangor & Aroostook R. R., Bangor, Me.	Boston & Albany R. R., Boston, Mass.	Boston & Maine R. R., Boston, Mass.	Boston Terminal, Boston, Mass.	Brooklyn Eastern District Terminal, New York City.	Buffalo, Rochester & Pittsburgh R. R., Rochester, N. Y.
3. Number of employees:							
Male	1,384	1,691	7,661	29,427	548	410	6,500.
Female	85	152	489	1,674	44	29	500.
4–5. Is there a medical organization? Nature of organization.	Surgical staff.	Surgical staff.	Surgical staff.	Surgical staff.	No	No	No.
6. Name and address of chief surgeon.	Dr. A. M. Hume, Owosso, Mich.	Dr. E. T. Nealey, Bangor, Me.	Dr. E. W. Dwight, Boston, Mass.	Dr. E. W. Dwight, Boston, Mass.			
7. How many company surgeons?	19	11	26	47			48.
8–9. Is there a relief department? Nature of same.	Mutual benefit association.	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations.	No	No	Yes, rules attached	Yes, rules attached	Yes, rules attached	No	Yes, rules attached.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	By chief surgeon	By trainmasters	No	No	No	By general superintendent.	By company surgeons at terminals and shops.
13. How much has safety-first movement influenced injuries?	Reduction	Decrease	No change	30 per cent	Good results	No data	21 per cent July 1 to Dec. 31, 1918, over same period 1917.
14. Are applicants required to undergo physical examination? If so, in what departments?	Operating department	Operating department	Train service	Train service	No	No	Operating department.
15. Is there an age limit? Give maximum and minimum for various classes.	21–35. Operating department.	No	21–45. Train service	18–34, firemen; 18, trainmen.	18–35, all departments	No	35 maximum, inexperienced; 45 maximum, experienced.
16. Is examination for promotion required? What departments?	Operating and mechanical departments.	Transportation department.	Train service	Firemen	No	No	Transportation department.
17. Is there periodic examination in operating department?	Vision, hearing	Firemen	Train service	Train service, 3 years; color, vision, hearing.	No	No	Transportation department, 2 years; vision and hearing.
18. Are rest rooms provided for male and female employees? How furnished and cared for.	No	Yes	Males, by company	Not generally	Yes, by company	Females	Yes, by company.
19. Is vaccination against smallpox required of applicants?	No	No	No	No	No	No	No.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	No	No.
21. What treatment for or prevention of venereal diseases?	None	None	None	None	None	None	None.
22–23. Is there a sanitary inspector? Medical or lay? What are his duties.	Yes, medical. General inspection.	No	No	No	No	Yes, lay	Yes, lay. Inspect all properties.
24. Do you have sanitary inspection of cars, buildings, etc?	Yes	No	Yes	No	Yes	Yes	Yes.
25. Are you working under State compensation laws? Number of States.	No	No	Yes, 1	Yes, 1	No	Yes, 2	Yes, 2.
26. Compare results of treatment of injured, compensation law and railroad.			All cared for by railroad surgeons.	No data		No data	All cared for by railroad surgical organization.
27. Is any consideration given to the housing of employees?	No	Yes	No	No	No	No	Yes.
28. Personal hygiene instruction	None	None	None	None	None	None	Given by company surgeons.
29. What supervision is exercised over food and drink in restaurants and dining cars?	By officers	Under general passenger agent and division superintendents.	Traveling inspector, superintendent dining cars.	Stewards and managers, employees examined occasionally.	None	None operated	Dining cars under supervision of commissary.
30. What precautions against malaria.	None	None	None	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	None	None	None	None	Lectures by company surgeons.

QUESTIONNAIRE 1.—EASTERN REGION—Continued.

1–2. Name of railroad. Location of general office.	Central New England R. R., New Haven, Conn.	Central Union Depot & Ry., Cincinnati, Ohio.	Central Vermont R. R., St. Albans, Vt.	Chicago, Indianapolis & Louisville, Chicago, Ill.	Cincinnati, Indianapolis & Western, Indianapolis, Ind.	Cincinnati Northern R.R. Cincinnati, Ohio.	Cleveland, Cincinnati, Chicago & St. Louis R. R., Cincinnati, Ohio.
3. Number of employees:							
Male	2,365	238	2,686	4,194	1,604	750	21,000.
Female	22	10	169	257	64		1,000.
4–5. Is there a medical organization? Nature of organization.	No	No	Surgical staff.	Surgical staff.	Surgical staff.	No	Surgical staff.
6. Name and address of chief surgeon			Dr. Alan Davidson, St. Albans, Vt.		Dr. Wm. Ossenbach, Indianapolis, Ind.		Dr. N. E. Jobes, Indianapolis, Ind.
7. How many company surgeons	10		8	27	27	10	120.
8–9. Is there a relief department? Nature of same.	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations.	Yes; rules attached	No	No	No	No	Yes; rules attached	Yes: rules attached.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	No	No	No	By local surgeon	No	By company surgeons and Red Cross.	By company surgeons and Red Cross.
13. How much has safety-first movement influenced injuries?	No data	No data	30 per cent	44 per cent, 1918–1917 deaths due to accident.	15 per cent	19 per cent, 1918–1917	19 per cent, 1918–1917.
14. Are applicants required to undergo physical examination? If so, in what departments?	Operating department	No	No	No	Train service	Train and yard service. Others vision only.	Train and yard service. Others vision only.
15. Is there an age limit? Give maximum and minimum for various classes.	18–45 firemen, 18–60 trainmen, 18–60 others.	No	21–40 train service. 40 maximum mechanical	16–45 mechanical department	21–45 train service	19–45 train-yard service; 16 minimum others.	19–45 train-yard service; 16 minimum others.
16. Is examination for promotion required? What departments.	No	No	Train service	No	Train service	Train and yard service	Train and yard service.
17. Is there a periodic examination in operating department?	No	No	Yes	No	Yes	Vision every 90 days	Vision every 90 days.
18. Are rest rooms provided for male and female employees? How furnished and cared for.	Yes; by company	No	No	Females, by company	Yes; by company	No	No.
19. Is vaccination against smallpox required of applicants?	No	No	No	No	No	No	No.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	No	No.
21. What treatment for or prevention of venereal diseases?	None	None	None	None	None	None	None.
22–23. Is there a sanitary inspector? Medical or lay? What are his duties?	No	Yes; lay. Inspect all properties.	Yes: lay. Inspects station buildings.	No	No	No	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	No	Yes	Yes	Buildings and shop grounds.	No	No	No.
25. Are you working under State compensation laws? Number of States.	Yes; 2	No	Yes; 1	Yes; 1	Yes; 3	Yes; 1	Yes; 3.
26. Compare results of treatment of injured; compensation law and railroad.	No difference		No data	All cared for by railroad surgeons.	Same	Railroad treatment better.	Railroad treatment better.
27. Is any consideration given housing of employees?	No	No	No	Yes	No	No	No.
28. Personal hygiene instruction	None	None	None	None	None	None	None.
29. What supervision is exercised over food and drink in railroad restaurants and dining cars?	None operated	By restaurant manager	Department heads	Dining car superintendents.	None	None operated	Daily inspection.
30. Precautions against malaria	None	None	None	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	Pamphlet posted	None	None	None	None.

1–2. Name of railroad. Location of general office.	Delaware & Hudson R. R., Albany, N. Y.	Delaware, Lackawanna & Western R. R., New York City.	Detroit Terminal, Detroit, Mich.	Detroit & Mackinac R. R., Detroit, Mich.	Detroit & Toledo Shore Line R. R., Detroit, Mich.	Detroit, Toledo & Ironton R. R., Detroit, Mich.	Erie R. R., New York City.
3. Number of employees:							
Male	14,300	21,375	198	787	412	1,792	39,054.
Female	700	1,287	19	31	22	90	2,897.
4–5. Is there a medical organization? Nature of organization.	Surgical staff	Hospital association	Surgical staff	Surgical staff	Surgical staff	Surgical staff	No.
6. Name and address of chief surgeon.	Dr. A. H. Stein, Albany, N. Y.	Dr. J. M. Wainwright, Scranton, Pa.	Dr. W. L. Hartman, Detroit, Mich.	Dr. D. A. Cameron, Alpena, Mich.	Dr. G. W. Stockwell, Detroit, Mich.	Dr. L. L. Syman, Springfield, Ohio.	
7. How many company surgeons	19	48	2	5	3	33	104.
8–9. Is there a relief department? Nature of same.	No	No	No	Mutual benefit association.	No	No	No.
10. Is there a pension fund? Give regulations.	Yes; rules attached	Yes; rules attached	No	No	No	No	No.
11. Is there reconstruction department for education injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	No	No	No	No	No	By company surgeons and Red Cross.	No.
13. How much has safety first movement influenced injuries?	Good results	10–15 per cent since 1911.	Decrease	No data	No data	No data	Decrease.
14. Are applicants required to undergo physical examination? If so, in what departments?	Operating department	Operating department	Operating department	No	Operating and mechanical departments.	Train service	All, except laborers, carpenters, and car repairers.
15. Is there an age limit? Give maximum and minimum various classes.	25 firemen, 28 brakemen, 35 conductors, engineers, 40 others.	18–45 all departments	18–35 brakemen, switchmen; 21–50 telegraphers.	21–35 train service	40 maximum mechanical department.	No	21–35 train service, 18–45 mechanical department.
16. Is examination for promotion required? What departments?	Operating department and apprentices.	Train service	Operating department	No	Operating department	Train service	Train and yard service.
17. Is there periodic examination in operating department?	Yes	Enginemen, 3-year periods.	No	No	Yes	Biennial—vision, hearing	Yes.
18. Are rest rooms provided for male and female employees? How furnished and cared for.	Yes; by company	Y. M. C. A.'s; by company.	No	No	No	No	Yes; by company.
19. Is vaccination against smallpox required of applicants?	Yes	No	Yes	No	Yes	No	No.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	No	No.
21. What treatment for, or prevention of, venereal diseases?	Disqualifies for train service.	Placards in toilets	None	None	None	None	None.
22–23. Is there a sanitary inspector? Medical or lay? What duties?	No	No	No	No	No	Yes; medical. General inspection.	No.
24. Do you have sanitary inspection of cars, buildings, etc?	Yes	Yes	No	No	Yes	Yes	Yes.
25. Are you working under State compensation laws? Number of States.	Yes; 3	Yes; 3	Yes; 1	Yes; 1	Yes; 1	No	Yes; 5.
26. Compare results treatment of injured—compensation law and railroad.	All cared for by railroad surgeons.	No difference	No data	No data	No data		All cared for by railroad surgeons.
27. Is any consideration given to the housing of employees?	No	Yes	No	No	No	No	No.
28. Personal hygiene instruction	None	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars.	Commissary agents	Managers and stewards. Employes examined semiannually.	None operated	Water samples sent State board of health periodically.	None operated	None operated	Dining car inspectors. Restaurant managers.
30. Precautions against malaria	Drainage	None	None	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.	None	None	None	None	None	None	None.

QUESTIONNAIRE 1.—EASTERN REGION—Continued.

1-2. Name of railroad. Location of general office.	Grand Trunk Lines—New England, Portland, Maine.	Grand Trunk Western Lines, Detroit, Mich.	Hocking Valley R. R., Columbus, Ohio.	Indianapolis Union R. R., Indianapolis, Ind.	Kanawha & Michigan R. R., Columbus, Ohio.	Lake Erie & Western R. R., Indianapolis, Ind.	Lehigh & Hudson River R. R., Warwick, N. Y.
3. Number of employees:							
Male	1,361	7,977	4,974	862	2,200	3,439	665.
Female	74	461	195	25	89	162	31.
4-5. Is there a medical organization? Nature of organization.	No	Surgical staff	Surgical staff	No	No	Surgical staff	No.
6. Name and address of Chief Surgeon.	Dr. C. H. Hunt, Portland, Me.	Dr. G. W. Stockwell, Detroit, Mich.	Dr. S. B. Taylor, Columbus, Ohio.	Dr. J. H. Oliver, Indianapolis, Ind.		Dr. J. J. Briggs, Indianapolis, Ind.	
7. How many company surgeons		67	16	1	14	41	8.
8-9. Is there a relief department? Nature of same.	No	No	Mutual benefit association.	No	No	No	No.
10. Is there pension fund? Give regulations.	Yes; rules attached	Yes; rules attached	Yes; rules attached	No	No	No	No.
11. Is there reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom, and scope of work?	By physicians	Yes	No	By local surgeon and Red Cross.	No	No	No.
13. How much has safety-first movement influenced injuries?	No data	Good results	No data	No data	Good results	Slight decrease	20 per cent.
14. Are applicants required to undergo physical examination? If so, in what departments?	Operating and mechanical departments.	Operating and mechanical departments.	Operating department	Train and yard service. Others vision only.	Operating department	Operating, mechanical, and engineering departments.	Operating department on vision, hearing, and colors.
15. Is there an age limit? Give maximum and minimum for various classes.	18-36 motive-power department, 21-45 operating department.	21-40 trainmen, 18-35 enginemen, 16-50 mechanics.	21-40 train service	16 minimum all departments.	21-40 transportation department, 21-45 mechanical departments.	21-37 brakemen, 21-32 firemen, 16-45 mechanical department, 21 minimum engineering.	No.
16. Is examination for promotion required? In what departments?	Operating and mechanical departments.	Operating department	Transportation department.	Trainmen on vision only.	Operating department	Operating and engineering departments.	No.
17. Is there periodic examination in operating department?	Yes	No	Yes	Train-yard service annually.	Vision, hearing	Yes	Engineer's, conductors.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	Males; R. R. Y. M. C. A.	No	Male; by company	No	No	No	No.
19. Is vaccination against smallpox required of applicants for service?	Yes	Yes	No	No	No	No	No.
20. Are employes given benefit of anti-typhoid immunization?	No	No	No	No	No	No	No.
21. What treatment for, or prevention of, venereal diseases?	None	Posters	Pamphlets	None	None	None	None.
22-23. Is there a sanitary inspector, medical or lay? What are his duties?	No	No	No	No	No	No	Yes, lay. Inspects buildings, makes report.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	Yes	Yes	Yes	No	Yes.
25. Are you working under State compensation laws? How many States?	Yes; 1	Yes; 2	No	No	No	Yes; 1	Yes; 2.
26. Compare results of treatment of injured—compensation law and railroad.	No difference	Same				Same	No difference.
27. Is any consideration given housing of employees?	No	No	No	No	No	Yes	No.
28. Personal hygiene instruction?	None	None	Bulletins	None	None	No	No.
29. What supervision exercised over food and drink in restaurants and dining cars?	None	None	None operated	None operated	Water examined by State board of health.	Water analyzed	None operated.
30. Precautions against malaria	None	None	None	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	Bulletins posted	None	None	None	None.

1-2. Name of railroad. Location of general office.	Lehigh & New England R. R., Philadelphia, Pa.	Lehigh Valley R. R., New York City.	Louisville & Jeffersonville Bridge and R. R., Cincinnati, Ohio.	Maine Central R. R., Portland, Me.	Michigan Central R. R., Detroit, Mich.	Monongahela R. R. Pittsburgh, Pa.	New York Central R. R., New York City.
3. Number of employees:							
Male	1,303	24,981	325	5,152	21,147	921	99,005.
Female	56	1,247		366	1,488	107	3,589.
4-5. Is there a medical organization? Nature of organization.	Surgical staff	Surgical staff	Yes	No	Surgical staff	Surgical staff	Surgical staff.
6. Name and address of chief surgeon.	Dr. H. F. Leibert, Bethlehem, Pa.	Dr. W. P. Walker, Bethlehem, Pa.			Dr. W. L. Hartman, Detroit, Mich.	Dr. W. M. Lilley, Brownsville, Pa.	Dr. W. B. Coley, New York City; Dr. F. E Pierce, Chicago.
7. How many company surgeons?	16	77	2		53	20	240.
8-9. Is there relief department? Nature of same.	No	Mutual benefit association.	No	No	No	No	No.
10. Is there pension fund? Give regulations.	No	No	No	Yes; rules attached	Yes; rules attached	No	Yes; rules attached.
11. Is there reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom, and scope of work.	By chief surgeon	Company surgeons; instruct at shops and terminals.	By company surgeons and Red Cross	No	By chief surgeon	No	By company surgeons and Red Cross.
13. How much has safety-first movement influenced injuries?	50 per cent, 1917-1914	25 to 40 per cent	No data	Decrease	Decrease	No data	15 per cent, 1918-1917.
14. Are applicants required to undergo physical examination? If so, in what departments?	Operating and mechanical departments.	Operating department	Train and yard service. Others vision only.	No	Operating department	No	Train and yard service. Apprentices in motive power and rolling stock.
15. Is there an age limit? Give maximum and minimum for various classes.	21-45 train service, 16-50 maintenance of way.	18-35 train-yard service, 16-50 others.	19-45 train service, 16 minimum others.	21-27 train service	18-35 brakemen, switchmen; 21-50 telegraphers.	No	18-45 train service, 16-55 others.
16. Is examination for promotion required? In what departments?	Operating department	Train and yard service	Operating department	No	Train service and switchmen.	Transportation department.	Train service.
17. Is there periodic examination in operating department?	No	Yes	Vision every 90 days	No	No	Engineeneo, vision and hearing.	Train-yard service, vision, hearing, colors.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	Yes; by company	Yes; by company	No	No	Yes; by company	Male; R. R. Y. M. C. A.	Yes; by company.
19. Is vaccination against smallpox required of applicants for service?	No	No	No	No	Yes	No	No.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	No	No.
21. What treatment for, or prevention of, venereal diseases?	None	None	None	None	None	None	None.
22-23. Is there a sanitary inspector, medical or lay? What are his duties?	No	Yes, lay. Inspection and report.	No	No	No	No	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	No	Yes	No	No	Yes	Yes	Yes.
25. Are you working under State compensation laws? How many States?	Yes; 3	Yes: 3	Yes; 1	No	Yes; 2	No	Yes; 5.
26. Compare results of treatment of injured—compensation law and railroad.	No difference	Same	Railroad treatment better.		All cared for by railroad surgeons.		Better under railroad.
27. Is any consideration given housing of employees?	No	Yes	No	Yes	No	No	No.
28. Personal hygiene instruction?	No	No	No	No	No	No	No.
29. What supervision exercised over food and drink in restaurants and dining cars?	None operated	Restaurants by managers. Dining car stewards.	None operated	None; contract service	Water analyzed. Food inspected.	None operated	Daily inspection. Periodic examination of employees.
30. Precautions against malaria	None	None	None	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	None	None	None	None	Bulletins posted.

QUESTIONNAIRE 1.—EASTERN REGION—Continued.

1-2. Name of railroad. Location of general office.	New York, Chicago & St. Louis R. R., Cleveland, Ohio.	New York, New Haven & Hartford R. R., New Haven, Conn.	New York, Ontario & Western R. R., New York City.	New York, Susquehanna & Western R. R., New York City.	Pere Marquette R. R., Detroit, Mich.	Pittsburgh & Lake Erie R. R., Pittsburgh, Pa.	Pittsburgh & Shawmut R. R., Kittanning, Pa.
3. Number of employees:							
Male	7,564	36,465	4,472	1,541	9,976	9,645	496.
Female	563	2,413	114	47	979	583	24.
4-5. Is there medical organization? Nature of same.	Surgical staff	No	No	No	No	Surgical staff	No.
6. Name and address of chief surgeon.	Dr. J. W. Dinnen, Fort Wayne, Ind.					Dr. G. R. Winters, Pittsburgh, Pa.	
7. How many company surgeons?	53	120	29	5	99	44	12.
8-9. Is there relief department? Nature of same.	No	No	No	No	No	No	No.
10. Is there pension fund? Give regulations.	Yes; rules attached	Yes; rules attached	Yes; rules attached	No	No	Yes; rules attached	No.
11. Is there reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	By chief surgeon as to use of train kits.	No	No	No	No	By company surgeons at terminals.	By company surgeons.
13. How much has safety first movement influenced injuries?	Decrease	Good results	No data	Decrease	No data	Reduction	No data.
14. Are applicants required to undergo physical examination? In what departments?	Operating and mechanical departments.	Operating department.	Operating department.	All, except carpenters, laborers, car repairers, mechanics.	Train service	Operating department and machinist apprentices.	Train service.
15. Is there an age limit? Give maximum and minimum for various classes.	21-35, all departments	18-45 firemen, 18-50 trainmen, 18-60 others.	21-45 firemen, 21-35 trainmen, 45 maximum mechanical department and engineers.	21-35 train service, 18-45 mechanical department.	18-35 inexperienced, 45 experienced train service.	No	18-35 train service.
16. Is examination for promotion required? In what departments?	Operating and mechanical departments.	No	Train service	Train and yard service	Operating department	Train and yard service	Operating department.
17. Is there periodic examination in operating department?	Vision and hearing	No	No	Yes	Triennial	Biennial—Train service on vision and hearing.	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	Yes; by company	Yes; by company	Yes; by company	Yes; by company	No	R. R. Y. M. C. A.'s, by company.	No.
19. Is vaccination against smallpox required of applicants for service?	Yes	No	No	No	No	No	No.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	No	No.
21. What treatment for, or prevention of, venereal diseases?	By circulars and instructions.	None	None	None	None	None	None.
22-23. Is there a sanitary inspector, medical or lay? What are his duties?	Yes; medical. Stations, shops, water supply.	No	No	No	No	Yes; both. Monthly inspection.	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	No	Yes	No	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	Yes; 4	Yes; 3	Yes; 3	Yes; 2	Yes; 3	Yes; 1	Yes, 1.
26. Compare results of treatment of injured—Compensation law and railroad.	All cared for by railroad surgeons.	Same	All cared for by railroad surgeons.	All cared for by railroad surgeons.	No data	All cared for by railroad surgeons.	Same.
27. Any consideration given housing employees?	Yes	No	No	No	No	Yes	No.
28. Personal hygiene instruction	None	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	Chief surgeon. Employees examined periodically.	Superintendent dining cars.	None. No dining cars.	None operated	Superintendent of dining cars and stewards.	Superintendent	None operated.
30. What precaution against malaria?	None	None	None	None	None	Drainage	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	None	None	None	None	None.

1-2. Name of railroad. Location of general office.	Pittsburgh & West Virginia R. R., Pittsburgh, Pa.	Portland Terminal R. R., Portland, Me.	Rutland R. R., Rutland, Vt.	Toledo & Ohio Central R. R., Columbus, Ohio.	Toledo, St. Louis & Western R. R., St. Louis, Mo.	Ulster & Delaware R. R., Kingston, N. Y.	Wheeling & Lake Erie R. R., Cleveland, Ohio.
3. Number of employees:							
Male	927	1,696	2,165	4,192	2,226	521	5,200.
Female	90	96	50	192	131	18	342.
4-5. Is there medical organization? Nature of same.	Surgical staff	No	Surgical staff.	No	Surgical staff	No	Surgical staff.
6. Name and address of chief surgeon	Dr. J. R. Brown, Pittsburgh, Pa.		Dr. S. W. Hammond, Rutland, Vt.	Dr. S. B. Taylor, Columbus, Ohio.	Dr. R. F. Palmer, Frankfort, Ind.	Dr. A. A. Stern, Kingston, N. Y.	Dr. C. A. Hall, Cleveland, Ohio.
7. How many company surgeons?	12		38	23	30	1	31.
8-9. Is there a relief department? Nature of same.	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations.	No	Yes; rules attached	No	No	No	No	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work?	No	No	By company surgeons and Red Cross.	No	By chief surgeon	No	By company surgeons.
13. How much has safety-first movement influenced injuries.	No data	Reduction	Reduction	8 per cent, 1918-1917	No data	35 per cent	4 per cent, 1918-1917.
14. Are applicants required to undergo physical examination? In what departments?	Operating department	No	Operating and mechanical departments.	Operating department	Train service	Train service	Train service.
15. Is there an age limit? Give maximum and minimum for various classes.	No	21-27 train service	19-30 firemen, 21 minimum trainmen, 16-21 apprentices.	21-40 transportation department, 21-45 mechanical department.	21-35 train service	21 minimum train service, 16 minimum maintenance of equipment	16-40 firemen.
16. Is examination for promotion required? In what departments?	No	No	Train service	Operating department	Train service	Train service	Train service.
17. Is there periodic examination in operating department?	No	No	Vision, colors, hearing	Vision, hearing	No	No	Yes.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	Yes; by company	No	No	No	No	No	Yes, by company. R. R. Y. M. C. A.'s.
19. Is vaccination against smallpox required of applicants for service?	No	No	No	No	No	No	No.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	No	No.
21. What treatment for, or prevention of, venereal diseases.	None	None	None	None	None	None	None.
22-23. Is there a sanitary inspector, medical or lay? What are his his duties?	No	No	No	No	No	No	Yes, lay; inspects buildings, cars; makes report.
24. Do you have sanitary inspection of cars, buildings, etc.?	No	No	Yes	Yes	No	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	Yes; 1	No	Yes; 2	No	No	Yes, 1	No.
26. Compare results of treatment of injured—Compensation law and railroad.	Very favorable		Same			No date	
27. Any consideration giving housing employees?	No	No	Agents and foremen	No	No	No	No.
28. What instruction in personal hygiene?	None	None	Bulletins	None	Lectures	No	No.
29. What supervision exercised over food and drink in restaurants and dining cars.?	None operated	None; contract service	No diners; restaurants supervised by railroad.	Water examined under regulations of State and Federal laws.	None	None operated	Commissary and chefs.
30. What precautions against malaria?	None	None	None	None	None	None	None.
31. What educational measures to safeguard health by means of pamphlets, lectures, etc.?	None	None	Bulletins	None	Bulletins posted	None	None.

QUESTIONNAIRE 2.—EASTERN REGION.

Name of railroad	Ann Arbor R. R.	Bangor & Aroostook R. R.	Boston & Albany R. R.	Boston & Maine R. R.	Brooklyn Eastern District Terminal.	Buffalo, Rochester & Pittsburgh R. R.	Central Vermont R. R.
1. Chief surgeon:							
(a) Appointed by	Federal manager	General manager	General solicitor	General counsel			General solicitor.
(b) Reports to	do	do	do	do			Claims.
2. Local surgeon:							
(a) Appointed by	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief executive officer	Claim department	Chief surgeon.
(b) Reports to	do	do	do	Claim department	do	do	Do.
3. Compensation, company surgeons:							
(a) Salary	Fees only	Chief surgeon; salary, fees, and annual pass.	Fees and pass	Fees and pass	Fee table	Six paid salary, others receive pass and in serious cases additional compensation.	Fee table.
(b) Fee table		Local surgeons; fees, annual pass.					
(c) Pass							
4. Pass privilege:							
(a) Local surgeons	Annual system pass	Annual passes	System passes	Annual system pass	None	Annual system pass	None.
(b) Their families						Trip passes	
5. How are injury cases cared for in absence of hospital associations.	By arrangements with four hospitals.	Local surgeons use nearest hospital.	Arrangements with hospitals in each city.	Pay regular rates	No arrangements	Arrangements with hospitals at principal points.	No arrangements, nearest hospital used.
6. Number of employees permanently totally disabled during 1918.	None	None	22 fatalities	None	None	None	None.
7. Number of employees permanently partially disabled during 1918.	do	2	9	18	do	3	1.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation.		100 per cent	100 per cent	100 per cent		100 per cent	100 per cent.
9. What percentage of permanently partially disabled were able to resume original occupation.		100 per cent	55 per cent	33⅓ per cent		None	None.
10. (a) Who makes physical examination of applicants for service.	Company surgeon	No examination heretofore required.	Local surgeons	Local surgeons	No examination made	Company surgeons	None made.
(b) Who approves applications from a medical standpoint.	Chief surgeon		Chief surgeon	Chief surgeon		No higher authority	Do.
11. Are applicants requiring examination on color, vision, and hearing examined by layman or doctor.	Doctor	Laymen	Layman	Laymen	None so examined	Laymen; difficult cases by doctor.	Layman.
12. Are laymen considered competent to conduct examination of employees on color, vision, and hearing.	No	Yes	Yes	Yes	No	Yes	Yes.
13. Has the claims department any authority over the surgical department.	No	No	Yes	No	No	Yes	Yes.
14. Who is responsible for—							
(a) Sanitation of the railroad	Chief surgeon	General manager	Federal manager	No one specially assigned	General superintendent	Engineering department	Superintendents.
(b) Health of the employees		do	do		do	Superior officers	Do.
(c) Who initiates the action	Chief surgeon	do	do		do	do	Do.

Name of railroad	Chicago, Indianapolis & Louisville R. R.	Cincinnati, Indianapolis & Western R. R.	Cleveland, Cincinnati, Chicago & St. Louis R. R.	Delaware & Hudson R. R.	Delaware, Lackawanna & Western R. R.	Detroit & Mackinac R. R.	Detroit, Toledo & Ironton R. R.
1. Chief surgeon:							
(a) Appointed by		General attorney	Claims department	Claims department	Federal manager	Federal manager	Claims department.
(b) Reports to		do	Claims department and operating department.	do	General superintendent and claims attorney.	General superintendent	Claims and operating departments.
2. Local surgeons:							
(a) Appointed by	General attorney	Chief surgeon	Claims department	General solicitor	Claims department	do	Chief surgeon.
(b) Reports to	Claims department	do	do	do	Claims department and chief surgeon.	do	Do.
3. Compensation, company surgeons:							
(a) Salary			Salary				
(b) Fee table	Fee table			Part salary, part fees			Fee table and pass.
(c) Pass	Annual system pass	Fees and pass			Fees, some by pass	Fees and pass	
4. Pass privilege:							
(a) To local surgeons	Annual system pass	Annual system pass	Annual pass	Pass for self and wife in State where located.	Annual system pass	System pass	Annual system pass for business only.
(b) Their families		None	Trip passes				
5. How are injury cases cared for in absence of hospital association.	Agreement with local hospitals.	No arrangements	Contract with number of hospitals.	Arrangements with local hospitals.	Arrangements with certain hospitals.	By arrangement	Arrangements with hospitals at terminals.
6. Number of employees permanently totally disabled during 1918.	None	2	5	None	1	None	None.
7. Number employees permanently partially disabled during 1918.	8	3	25	27	8	do	Do.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation.	100 per cent	100 per cent		100 per cent	60 per cent		
9. What percentage of permanently partially disabled were able to resume original occupation.	63 per cent	100 per cent		63 per cent	37½ per cent		
10. (a) Who makes physical examination of applicants for service.	No physical examination	Chief surgeon	Company surgeons	Company surgeons	Company surgeons	No physical examination	Company surgeons.
(b) Who approves applications from medical standpoint.			Chief (consulting) surgeon.	Chief surgeon			Chief surgeon.
11. Are applicants requiring examination on color, hearing, and vision examined by layman or doctor.	Doctor	Doctor	Layman	Doctor	Doctor	Layman	Doctor, with few exceptions.
12. Are laymen considered competent to conduct examinations of employees on color, vision, and hearing.	Yes	Yes	Yes	No	No	Yes	Yes.
13. Has claims department any authority over the surgical department.	All surgeons under claims department.	Yes	Yes, complete	Yes	Yes	No	Yes.
14. Who is responsible for—							
(a) Sanitation of the railroad		Operating department	Trainmasters	Department heads	Engineering department	General superintendent	Chief surgeon.
(b) Health of the employees		do		do	Department heads	do	Do.
(c) Who initiates the action		do	Department heads	do	do	do	Do.

QUESTIONNAIRE 2.—EASTERN REGION—Continued.

Name of railroad	Erie R. R.	Grand Trunk Lines—New England.	Grand Trunk Western Lines.	Hocking Valley R. R.	Indianapolis Union R. R.	Kenawha & Michigan R. R.	Lake Erie & Western R. R
1. Chief surgeon:							
(a) Appointed by			Federal manager	Superintendent	Claim agent		Claim agent.
(b) Reports to			Claim agent	Superintendent and claim agent.	do		Do.
2. Local surgeons:							
(a) Appointed by	Claim department	Legal department	Chief surgeon	Chief surgeon	do	Claim agent	Do.
(b) Reports to	do	do	do	do	do	do	Do.
3. Compensation, company surgeons—salary, fee table, or pass only.	Salary, fee table	Fees	Fee table	Some salary, one fee table, eight by pass only.	Salary	A few paid salary and fees, others annual pass only.	Fee table and pass.
4. Pass privilege:							
(a) To local surgeons	Annual pass, no foreign pass.	None	District surgeons, annual.	System pass	Switching road only	Annual system pass	System pass.
(b) Their families	Trip passes		Local surgeons, trip				
5. How are injury cases cared for in absence of hospital association.	Arrangements at important points.	No special arrangements.	Sent to certain hospitals.	Arrangements with local hospitals.	No special arrangements.	Hospital association. Non-members sent to same hospital under contract.	Arrangements only at Peru, Ind.
6. Number employees permanently totally disabled during 1918.	3	None	None	None	None	1	None.
7. Number employees permanently partially disabled during 1918.	109	do	29	9	1	7	5.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation.	30 per cent		100 per cent	100 per cent	100 per cent	100 per cent	100 per cent.
9. What percentage of permanently partially disabled were able to resume original occupation.	67 per cent		69 per cent	67 per cent	None	33 per cent	None.
10. (a) Who makes physical examination of applicants for service.	Company surgeons	Physicians of Grand Trunk Insurance & Provident Society.	Local surgeons	Company surgeons	Local surgeons	Company surgeons	Local surgeons.
(b) Who approves applications from a medical standpoint.		Department heads	Chief surgeon	Chief surgeon		Superintendent	
11. Are applicants requiring examination on color, hearing, and vision examined by layman or doctor.	Layman	Doctor	Doctor	Doctor (reexamination by layman).	Layman	Layman	Layman.
12. Are laymen considered competent to conduct examinations of employes on color, vision, and hearing.	Yes	No	Yes	Yes	Yes	Yes	Yes.
13. Has the claims department any authority over the surgical department.	Yes	No		No	Yes	Yes	Yes.
14. Who is responsible for—							
(a) Sanitation of the railroad	Division officers	Department heads		Department heads	Heads of departments	Department heads	Operating department.
(b) Health of employes		do		No one		do	Do.
(c) Who initiates the action				do		do	Division superintendent.

Name of railroad	Lehigh & New England R. R.	Lehigh Valley R. R.	Maine Central R. R.	Michigan Central R. R.	Monongahela R. R.	New York Central R. R.	New York, Chicago & St. Louis R. R.	New York, New Haven & Hartford R. R.
1. Chief surgeon:								
(a) Appointed by	Superintendent		Consulting surgeon only.	Claim department	Federal manager	Operating department	Federal manager	
(b) Reports to	do			Claim department and operating department.	do	General manager	do	
2. Local surgeons:								
(a) Appointed by	do	General manager	None employed	Claim department	Federal manager	Claim department	Chief surgeon	Claim and operating department.
(b) Reports to	do	Superintendent		do	Claim agent and chief surgeon.	Claim department and chief surgeon.	do	Claim department.
3. Compensation, company surgeons—salary, fee table, or pass only.	Fees	Compensation law fees, and pass.	Consulting surgeon paid fees in addition to pass.	Salary	Nominal salary	Salary	Salary and fee table	Fees.
4. Pass privilege:								
(a) To local surgeons	None	Annual system pass	None	Annual pass, some given N. Y. C. Lines trip pass.	For self and wife	Restricted annual pass, some given N. Y. C. Lines trip passes.	System passes	None.
(b) Their families				Trip transportation for families.		Trip passes for families.		
5. How are injury cases cared for in absence of hospital association.	No arrangements	Arrangements at Sayre, Pa.	No arrangements	Contract with number of hospitals.	Have hospital associations.	Contracts with large number of hospitals.	Arrangements made at certain hospitals.	Arrangements at some points, others none.
6. Number of employees permanently totally disabled during 1918.	2	6	None	None	None	6	1	5.
7. Number employees permanently partially disabled during 1918.	2	22	14	6	do	65	4	41.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation	100 per cent	100 per cent	100 per cent	Unable to say		Unable to say	None	Practically 100 per cent.
9. What percentage of permanently partially disabled were able to resume original occupation.	None	95½ per cent	78½ per cent	do		do	None	Connecticut, 40 per cent; Rhode Island, none; Massachusetts, 100 per cent; and New York, 65 per cent.
10. (a) Who makes physical examination of applicants for service.	Local surgeons	Company surgeons	Local physicians	Company surgeons	No examination required.	Company surgeons	Division surgeons	Company surgeons.
(b) Who approves applications from a medical standpoint.	Chief surgeon and superintendent.	Superintendent		Chief surgeon		Chief surgeons	Chief surgeon	
11. Are applicants requiring examination on color, hearing, and vision examined by layman or doctor.	Layman	Layman	Layman	Layman	Layman	Layman	Doctor	Layman.
12. Are lymen considered competent to conduct examinations of employees on color, vision, and hearing.	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes.
13. Has the claims department any authority over the surgical department.	No	No surgical department.	Yes	Yes, complete	Yes	Yes, complete, except chief surgeons.	No	In Massachusetts, no; other States, yes.
14. Who is responsible for—								
(a) Sanitation of the railroad.	Superintendent	Division superintendents and department heads.	Department heads	Engineering department and superintendent of rolling stock, department heads.	Chief surgeon	Officials in charge	Chief surgeon	Division superintendents.
(b) Health of employees.	No one so assigned	do	do	do	Chief surgeon and department heads.		The surgeons	Do.
(c) Who initiates the action.	Superintendent	do	do	do			Chief surgeon	Do.

QUESTIONNAIRE 2.—EASTERN REGION—Continued.

Name of railroad	New York, Ontario & Western R. R.	Pere Marquette R. R.	Pittsburgh & Lake Erie R. R.	Rutland R. R.	Toledo & Ohio Central R. R.	Toledo, St. Louis & Western R. R.	Wheeling & Lake Erie R. R.
1. (a) Chief surgeon: Appointed by			Federal manager	General manager	Claim department	Superintendent	Federal manager.
(b) Reports to			do	do	Claim and operating department.	do	Do.
2. (a) Local surgeons: Appointed by	Federal manager	Claim agent	Federal manager	Chief surgeon	Claim department	Superintendent	Chief surgeon.
(b) Report to	Superintendent and claim agent.	do	Claim agent and chief surgeon.	do	do	do	Do.
3. Compensation, company surgeons—salary, fee table, or pass only.	Fee table	Fee table	Nominal salary	Salary and fee table	Salary	Fee table	Salary, fee table, and pass.
4. (a) Pass privilege: To local surgeons	Annual system pass	Pass good in State located	Pass for self and wife	Annual system pass	Annual system pass, N. Y. C. lines trip pass for some.	Annual system pass	System passes for self and wife.
(b) Their families					Trip transportation for families.	Trip passes	
5. How are injury cases cared for in absence of hospital association?	No arrangements	Contracts with hospitals	Hospital associations	Arrangements with hospital.	Contracts at number of places.	Contract with one hospital.	Arrangements with hospitals.
6. Number employees permanently totally disabled during 1918.	None	None	1	None	1	1	8.
7. Number employees permanently partially disabled during 1918.	None	2	11	5	2	3	71.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury with educational preparation?		100 per cent	100 per cent	100 per cent	Do not know	100 per cent	100 per cent.
9. What percentage of permanently partially disabled were able to resume original occupation?		None	54½ per cent	80 per cent	Do not know	None	93 per cent.
10. (a) Who makes physical examination of applicants for service?	Company surgeons	Local surgeons	Company surgeons	Company surgeon	Company surgeons	Company surgeons	Local surgeons.
(b) Who approves application from a medical standpoint?		Assistant general manager.	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon.
11. Are applicants requiring examination on color, hearing, and vision examined by layman or doctor?	Doctor	Doctor	Doctor, and layman if rushed.	Layman	Layman	Layman	Doctor.
12. Are laymen considered competent to conduct examinations of employees on color, vision, and hearing?	No experience with laymen.	Yes	Yes	Yes	Yes	Yes	No.
13. Has the claims department any authority over the surgical department?	No	Yes, complete charge	Yes, surgeons report to claims department direct.	None	Yes, complete	No	No.
14. Who is responsible for—							
(a) Sanitation of the railroad?	Federal manager	General claim agent is responsible for water supply, other matters assistant general manager.	Chief surgeon, chief surgeon and department heads.	General manager	Department heads	Chief engineer	General superintendent.
(b) Health of employees?	Department heads			do	do	Supervising officer	Department heads and surgical department.
(c) Who initiates the action?	do			do	do	do	Department heads and employees.

QUESTIONNAIRE 1.—ALLEGHENY REGION.

1-2. Name of railroad. Location of general office.	Baltimore & Ohio R. R. Lines East, Baltimore, Md.	Baltimore & Ohio R. R. Lines West, Cincinnati, Ohio.	Baltimore & Ohio Chicago Terminal, Chicago, Ill.	Bessemer & Lake Erie R. R., Pittsburgh, Pa.	Buffalo & Susquehanna R. R., Wellsville, N. Y.	Central Railroad of New Jersey, Philadelphia, Pa.
3. Number of employees:						
Male	45,818	28,652	2,204	4,380	840	14,192.
Female	2,716	706	156	166	39	667.
4-5. Is there a medical organization? Nature of same.	Surgical staff	Surgical staff	Surgical staff	Surgical staff	Surgical staff	Surgical staff.
6. Name and address of chief surgeon.	Dr. E. V. Milholland, Baltimore, Md.	Dr. E. V. Milholland, Baltimore, Md.	Dr. E. V. Milholland, Baltimore, Md.	Dr. R. W. Brown, Greenville, Pa.	Dr. F. P. Farwell, Galeton, Pa.	
7. How many company surgeons?	320	280	13	20	4	18.
8-9. Is there relief department? Nature of same.	Mutual benefit association	Mutual benefit association	Mutual benefit association	No	No	No.
10. Is there a pension fund? Give regulations.	Yes, rules attached	Yes, rules attached	Yes, rules attached	Yes, rules attached	No	Yes, rules attached.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	By company surgeons to shopmen and trainmen.	By company surgeons to shopmen and trainmen.	By company surgeons to shopmen and trainmen.	No	No	By company surgeons and Red Cross.
13. How much has safety-first movement influenced injuries?	15 per cent deaths 1918-17, 22 per cent injuries 1918-17.	51 per cent deaths 1918-17. 30 per cent injuries 1918-17.	Reduction	70 per cent decrease fatalities.	Reduction	No data.
14. Are applicants required to undergo physical examination? In what departments?	All departments except clerks.	All departments except clerks.	All departments except clerks.	Operating and mechanical departments.	No	Operating department.
15. Is there an age limit? Give maximum and minimum for various classes.	21-45 train service, 14-45 others.	21-45 train service, 14-45 others.	21-45 train service, 14-45 others.	17-30 inexperienced, 17-35 experienced; 50 maximum station and telegraph service.	No	21-34 train service, 21-45 others.
16. Is examination for promotion required? In what departments?	Train service	Train service	Train service	No	Train service	Operating department.
17. Is there periodic examination in operating department?	Yes	Yes	Yes	Train service—vision, hearing, every 3 years. Pennsylvania: 2 years in Ohio.	No	Every 5 years under 40, every 3 years over 40.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	Yes, by company	Yes, by company	Yes, by company	Males, by company	Yes	Yes.
19. Is vaccination against smallpox required of applicants for service?	No	No	No	No	No	No.
20. Are employees given the benefit of antityphoid immunization?	No	No	No	No	No	No.
21. What treatment for, or prevention of, venereal diseases?	Bulletins	Bulletins	Bulletins	None	None	None.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	Yes, medical. Personal inspection property.	Yes, medical. Personal inspection property.	Yes, medical. Personal inspection property.	No	No	Yes, lay. General inspection.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	Yes	Yes	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	Yes, 2	No	Yes, 1	Yes, 2	Yes, 2	Yes, 3.
26. Compare results of treatment of injured—compensation law and railroad.	No data		No data	All cared for by railroad surgeons.	Better under railroad surgeons.	Better under railroad surgeons.
27. Any consideration given housing of employees?	Yes	No	No	Yes	Yes	No.
28. What instruction in personal hygiene?	Lectures and articles in employees' magazine.	Lectures and articles in employees' magazine.	Lectures and articles in employees' magazine.	Bulletins	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	Frequent inspection	Frequent inspection	Frequent inspection	None operated	None operated	Food handlers examined every 3 months.
30. What precautions against malaria?	Drainage, screening	Drainage, screening	Drainage, screening	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	Bulletins	Bulletins	Bulletins	Bulletins	None	None.

QUESTIONNAIRE 1.—ALLEGHENY REGION—Continued.

1-2. Name of railroad. Location of general office.	Cumberland & Pennsylvania R. R., Cumberland, Md.	Cumberland Valley R. R., Chambersburg, Pa.	Grand Rapids & Indiana R. R., Grand Rapids, Mich.	Hudson & Manhattan R. R., New York City.	Long Island R. R., New York City.	Pennsylvania R.R. lines east, Philadelphia, Pa.	Pennsylvania R.R. western lines, Pittsburgh, Pa.
3. Number of employees:							
Male	499	2,122	2,733	1,401	7,600	187,413	38,088.
Female	28	104	248	241	500	15,348	1,614.
4-5. Is there medical organization? Nature of same.	Surgical staff	Surgical staff	No	Surgical staff	No	Surgical staff	No.
6. Name and address of chief surgeon	Dr. D. Z. Dunott, Baltimore, Md.	Dr. C.F. Palmer, Chambersburg, Pa.		Dr. L. M. Ryan, Brooklyn, N. Y.	Dr. G. K. Meynen, Jamaica, N. Y.	Dr. S. W. Latta, Philadelphia, Pa.	
7. How many company surgeons	3	12	19	13	43	370	98.
8-9. Is there a relief department? Nature of same.	No	Mutual benefit association.	Mutual benefit association.	Mutual benefit association.	Mutual benefit association.	Mutual benefit association.	Mutual benefit association.
10. Is there a pension fund? Give regulations.	No	Yes, rules attached	Yes; rules attached	No	No	Yes; rules attached	Yes; rules attached.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	No	By company surgeons	No	By company surgeons	By chief surgeon	By company surgeon to selected employees.	No.
13. How much has safety-first movement influenced injuries?	No data	Decrease	20 to 30 per cent	No data	Decrease	Reduction	No data.
14. Are applicants required to undergo physical examination? In what departments?	All departments	All departments	Train service	All departments	All departments	All departments	All departments, except laborers and clerks.
15. Is there an age limit? Give maximum and minimum for various classes.	21-45 operating department; 16-45 maintenance of way; 17-45 maintenance of equipment.	18-35 all departments	20-28 train service; 16-45 others.	18 minimum all departments.	16-50	45 maximum all departments.	19-28 firemen; 21-28 brakemen.
16. Is examination for promotion required? In what departments?	Train service; laborers to foreman; hostlers to firemen.	Train service	Vision—hearing only	Transportation department.	Yes	Operating department	Operating and maintenance departments on vision, hearing, colors.
17. Is there a periodic examination in operating department?	No	Under 40, every 5 years; over 40, every 2 years.	Vision—hearing	Yes	Yes	Yes	Vision, hearing every 2 years.
18. Are rest rooms provided for male and feiame employees? How furnished and cared for?	No	Yes, by company	No	Yes; by company	No	Females, by company. R. R. Y. M. C. A.'s.	Yes; by company.
19 Is vaccination against smallpox required of applicants for service?	No	No	No	No	No	No	No.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	Yes	No.
21. What treatment for, or prevention of, venereal diseases?	None	Not permitted to work while infected.	None	Periodic examination	None	Advised as to treatment.	No benefits paid for such disability.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	Yes; medical; general inspection.	Yes; lay; general inspection.	No	Yes; lay; general inspection and report.	No	Yes; medical; monthly inspections.	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	No	Yes	Yes	Yes	Yes	Yes	No.
25. Are you working under State compensation laws? In how many States?	No	Yes; 3	No	Yes; 2	Yes; 1	Yes; 5	No.
26. Compare results of treatment of injured—compensation law and railroad.		Railroad surgical organization more effective.		All cared for by railroad surgeons.	No data	No data	
27. Any consideration given housing of employees?	No	Yes.	No	No	No	No	No.
28. What instructions in personal hygiene?	None	Bulletins	Bulletins posted	None	None	Pamphlets	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	None operated	None operated	None	None operated	None operated	Periodic inspection by medical examiners.	Inspections; water examined.
30. What precautions against malaria?	None	None	None	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	Lectures and pamphlets.	None	None	None	Pamphlets	None.

1-2. Name of railroad. Location of general office.	Philadelphia & Reading R. R., Philadelphia, Pa.	Philadelphia & Reading R. R., Philadelphia, Pa.	Pittsburgh, Cincinnati, Chicago & St. Louis R. R., Pittsburgh, Pa.	Staten Island Rapid Transit R. R., New York City.	Washington Terminal R. R., Washington, D. C.	Western Maryland R. R., Hagerstown, Md.
3. Number of employees:						
Male	30,426	422	38,126	1,487	3,244	7,870.
Female	1,293	6	2,151	105	556	312.
4-5. Is there a medical organization—nature of same?	Surgical staff	Surgical staff	Surgical staff	No	No	Surgical staff.
6. Name and address of chief surgeon?	Dr. Caspar Morris, Philadelphia, Pa.	Dr. G. B. Knukle, Harrisburg, Pa.		Dr. F. F. DeRevere, Staten Island, N. Y.		Dr. D. Z. Dunott, Baltimore, Md.
7. How many company surgeons?	60	6	133	1	4	74.
8-9. Is there a relief department? Nature of same.	Mutual benefit association	Mutual benefit association	Mutual benefit association	Mutual benefit association	Mutual benefit association	Mutual benefit association.
10. Is there a pension fund? Give regulations.	Yes, rules attached	Yes, rules attached	Yes, rules attaebed	No	Yes, rules attached	Yes, rules attached.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	By Red Cross	By company surgeons	No	By benefit association surgeon.	By surgeons of relief department.	By division surgeon.
13. How much has safety-first movement influenced injuries?	Decrease	No data	No data	No data	No data	No data.
14. Are applicants required to undergo physical examination? In what departments?	All departments, except females.	All departments	All departments except laborers and clerks.	Operating department	Operating department for vision, hearing and colors.	All departments.
15. Is there an age limit? Give maximum and minimum for various classes.	18-45 all departments excepting messengers; minimum 16.	18-45 all departments	19-28 firemen, 21-28 brakemen, 45 maximum all classes.	21-35 inexperienced, 21-40 experienced.	16-45 all departments	16-45 maintenance of way, 17-45 maintenance of equipment, 21-45 transportation department.
16. Is examination for promotion required? In what departments?	Operating department	All departments	Operating and maintenance departments on vision and hearing.	Operating department	Train service	Train service. Laborers to foreman. Hostlers to fireman.
17. Is there a periodic examination in operating departments?	Biennial; vision, hearing, colors.	Yes	Biennial; vision, hearing, colors.	Yes	No	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	Male, by company	Yes, by company	Yes, by company	Yes, by company	No	Yes, by company.
19. Is vaccination against smallpox required of applicants for service?	No	Yes	No	No	No	No
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	No.
21. What treatment for, or prevention of, venereal diseases?	None	Instructions by company surgeons.	No benefits paid for such disability.	None	None	Held out of service.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	Yes, lay; stations	Yes, lay; stations	No	No	No	Yes, medical. General inspection.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	No	No	No	Yes.
25. Are you working under State compensation laws? In how many States?	Yes, 3	Yes, 1	No	Yes, 1	No	No.
26. Compare results of treatment of injured—compensation law and railroad?	All cared for under compensation law.	No data		No data		
27. Any consideration given housing of employees?	No	No	No	No	No	No.
28. What instruction in personal hygiene?	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	Food handlers examined every 3 months	Superintendent of dining cars.	Inspectors. Water examined.	None operated	Employees examined by relief department physicians.	None.
30. What precautions against malaria?	Assistance rendered State commissioner.	None	None	Drainage	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	Lectures, bulletins	None	None	None	None.

QUESTIONNAIRE 2.—ALLEGHENY REGION.

Name of railroad	Baltimore & Ohio—lines east and lines west, and B. & O. Chicago Terminal.	Bessemer & Lake Erie R. R.	Buffalo & Susquehanna R. R.	Central R. R. of New Jersey.	Grand Rapids & Indiana R. R.	Hudson & Manhattan R. R.	Long Island R. R.
1. Chief surgeon:							
(a) Appointed by	Chief medical examiner reports to superintendent relief department.	Federal manager				Federal manager	Federal manager.
(b) Reports to		do					Accident reports go to claim department.
2. Local surgeons:							
(a) Appointed by	Superintendent relief department.	Chief surgeon	Superintendent	Claim agent	Superintendents	Federal manager	Federal manager.
(b) Report to	Chief medical examiner	do	do	do	do	Chief surgeon and claim agent.	Chief surgeon.
3. Compensation, company surgeons, salary, fee table, or pass only.	Salary; others pass only.	Chief surgeon salary, others fee table.	Salary; one pass only	One salary, others fees	Fee table and pass privilege.	Chief surgeon salary, others fees.	Fee and pass; two paid salary.
4. Pass privilege:							
(a) To local surgeons	B. & O. annual system pass.	Annual pass within State.	Annual pass	System pass	Division pass; system pass for those at joint terminals.	System pass	System pass.
(b) Their families	Trip passes		Chief surgeon annual, self and wife.				
5. How are injury cared for in absence of hospital association?	Contract with hospitals along entire line.	Monthly payment made to one hospital; no other arrangements.	Hospitals paid amounts provided by Pennsylvania compensation commission.	Arrangements with hospitals.	No special arrangements.	Arrangements with hospitals.	One hospital paid by year, the other by case.
6. Number of employees permanently totally disabled during 1918.	2	2	None	1	None	None	1.
7. Number of employees permanently partially disabled during 1918.	26	14		37	do	4	10.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	50 per cent	100 per cent	100 per cent	60 per cent		100 per cent	100 per cent.
9. What percentage of permanently partially disabled were able to resume original occupation?	66 per cent	57 per cent	None	50 per cent		100 per cent	50 per cent.
10. (a) Who makes physical examination of applicants for service?	District medical examiners	Company surgeons	Trainmaster; no medical examination required.	Local surgeon	Local medical examiner.	Chief surgeon	Medical examiner.
(b) Who approves applications from a medical standpoint?	Chief medical examiner and finally by superintendent relief department.	Chief surgeon			Chief medical examiner.	do	
11. Are applicants requiring examination on color, hearing, and vision examined by laymen or doctor?	Doctor, except Toledo division.	Laymen	Laymen	Layman	Layman	Doctor	Doctor.
12. Are laymen considered competent to conduct examinations of employees on color, vision, and hearing?	No	Yes	Yes	Yes	Yes	Do not think it advisable.	Yes.
13. Has the claims department any authority over surgical departments?	No	No	No claims or surgical departments.	Yes	No	Yes	Yes.
14. Who is responsible for—							
(a) Sanitation of the railroad?	Relief department	Federal manager through the safety organization and surgical department and operating department. Federal manager determines policy as to vaccination, etc.	Department heads	Department heads	Superintendent and division officers.	General superintendent.	Department heads.
(b) Health of the employees?	do		do	do	do	Superintendents and chief surgeon cooperate with welfare department. Superintendents initiate action.	Do.
(c) Who initiates the action?	do		do	do	do		Do.

Name of railroad	Pennsylvania R. R. Eastern lines.	Pennsylvania R. R. Lines west.	Philadelphia & Reading R. R.	Staten Island Rapid Transit R. R.	Washington Terminal R. R.	Western Maryland R. R.
1. Chief surgeon:						
(a) Appointed by	Chief medical examiner appointed by and reports to superintendent relief department.		Claims department has a medical examiner.		One surgeon employed, appointed by the superintendent.	President.
(b) Reports to						General manager.
2. Local surgeons:						
(a) Appointed by	General manager	Superintendent	Superintendents with approval of general manager and general claim agent.	Use only the surgeon of employees mutual benefit association.	None employed except as mentioned above.	Chief surgeon.
(b) Report to	Division and general superintendents.	do				Do.
3. Compensation, company surgeons, salary, fee table, or pass only.	Some by salary and pass, others pass only.	Some salary, some fee table, others nominal retainer.	Fees	Company contributes to employees mutual benefit association and uses surgeon.	Salary	All receive nominal annual salary, some monthly salary, others paid according to State compensation fee table.
4. Pass privilege:						
(a) To local surgeons	Division pass	All furnished annual pass	Annual pass	Above-mentioned surgeon receives pass.	Limited card pass	Annual system pass, same given to wives after five years of service. Dependents given trip passes.
(b) Their families		Trip passes				
5. How are injury cases cared for in absence of hospital association?	Stated amounts to some and arrangements with other hospitals. Minor injuries cared for by relief department medical examiners.	No special arrangements	Hospitals render bill in accordance with State compensation acts.	No special arrangements	Arrangements with hospital.	Contracts with local hospitals.
6. Number of employees permanently totally disabled during 1918.	2	10	None	None	None	8.
7. Number employees permanently partially disabled during 1918.	187	104	15	do	4	43.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	Unable to state. Many resumed original occupation. Experience shows practically all injured employees furnished positions without educational preparation.	93 per cent	100 per cent		100 per cent	91 per cent.
9. What percentage of permanently partially disabled were able to resume original occupation?	do	61½ per cent	66⅔ per cent		100 per cent	85 per cent.
10. (a) Who makes physical examination of applicants for service?	Medical examiners	Medical examiners	Relief association doctors	Employees mutual benefit association surgeon.	Relief department medical examiner.	Medical examiner of relief department.
(b) Who approves applications from a medical standpoint?	Chief medical examiner	do	Superintendent			Chief surgeon.
11. Are applicants requiring examination on color, hearing, and vision examined by layman or doctor?	Doctor	Laymen	Doctor	Doctor	Doctor	Doctor.
12. Are laymen considered competent to conduct examinations of employees on color, vision, and hearing?	No	Yes	No	Not unless specially trained.	No	No.
13. Has the claims department any authority over surgical department?	No	No	Yes	No	No	No.
14. Who is responsible for—						
(a) Sanitation of the railroad?	Division superintendents and medical examiners.	Superintendent and staff	Division safety committees who report to bureau safety and labor.	Superintendent	Medical examiner, relief department.	Chief surgeon prior to Federal control.
(b) Health of employees?				do		No provision.
(c) Who initiates the action?				do		Department heads.

QUESTIONNAIRE 1.—POCAHONTAS REGION.

1-2. Name of railroad. Location of general office.	Ashland Coal & Iron R. R.; Richmond, Va.	Chesapeake & Ohio R. R.; Richmond, Va.	Norfolk & Portsmouth Belt Line R. R.; Norfolk, Va.	Norfolk & Western R. R.; Roanoke, Va.	Virginian R. R.; Norfolk, Va.
3. Number of employees:					
Male	235	24,000	250	29,060	3,842.
Female	4		20	596	121.
4-5. Is there a medical organization? Nature of same.	No	Hospital association	No	Surgical staff	Surgical staff.
6. Name and address of chief surgeon	Dr. W. T. Oppenheimer, Richmond, Va.	Dr. W. T. Oppenheimer, Richmond, Va.	Dr. R. L. Corbell, Port Norfolk, Va.	Dr. S. S. Gale, Roanoke, Va.	Dr. R. L. Payne, Norfolk, Va.
7. How many company surgeons?	2	190	1	285	47.
8-9. Is there a relief department? Nature of same.	No	No	No	Mutual benefit association	No.
10. Is there a pension fund? Give regulations.	No	No	No	Yes; rules attached	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No.
12. Do you instruct in first aid? By whom and scope of work?	No	No	No	No	By company surgeons.
13. How much has safety-first movement influenced injuries?	Material reduction	Decrease	No data	Reduction	50 per cent.
14. Are applicants required to undergo physical examination? In what departments?	No	No	Operating department	Operating department on vision, colors, hearing.	No.
15. Is there an age limit? Give maximum and minimum for various classes.	21-38 all departments	21-28 train service; 50 maximum for clerks.	No	35 maximum inexperienced; 45 maximum experienced.	No.
16. Is examination for promotion required? What departments?	Transportation department	No	Operating department	Operating department	Train service.
17. Is there a periodic examination in operating department?	No	No	No	Yes	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	No	Females, by company; Y. M. C. A.'s mutually operated.	No	Females by company	No.
19. Is smallpox vaccination required of applicants?	Yes	No	No	No	No.
20. Are employees given benefit of antityphoid immunization?	No	Yes	No	No	No.
21. What treatment for or prevention of venereal diseases?	None	None	None	None	None.
22-23. Is there a sanitary inspector, medical or lay? What are his duties?	Yes, lay; inspect buildings, etc.	Yes, lay; general inspection	No	Yes, medical; advise on sanitary questions.	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	Yes	Yes	No.
25. Are you working under State compensation laws? In how many States?	Yes; 1	No	No	No	No.
26. Compare results treatment of injured compensation law and railroad.	Same				
27. Is any consideration given housing of employees?	No	Yes	No	Yes	Yes.
28. What instruction in personal hygiene?	None	Bulletins posted	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	None	Inspection and supervision by officers in charge.	None operated	Dining-car superintendent	None.
30. What precaution against malaria?	None	Drainage	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	Bulletins posted	None	Lectures	None.

QUESTIONNAIRE 2.—POCAHONTAS REGION.

Name of railroad.	Chesapeake & Ohio R. R.	Norfolk & Western R. R.	Virginian R. R.
1. Chief surgeon:			
(a) Appointed by	Chief executive	General manager	Federal manager.
(b) Reports to	do	do	General solicitor.
2. Local surgeons:			
(a) Appointed by	Chief surgeon	Chief surgeon	Chief surgeon.
(b) Report to	do	do	Do.
3. Compensation, company surgeons: Salary, fee table, or pass only.	Salary	Some salary, others pass only	Some salary, others fees.
4. Pass privilege:			
(a) To local surgeons	Over system	Annual pass	System pass.
(b) Their families	do	Trip passes	
5. How are injury cases cared for in absence of hospital association?	Have hospital association	Contracts with hospitals	Special rates with hospitals at division points.
6. Number of employees permanently totally disabled during 1918.	1	2	None.
7. Number of employees permanently partially disabled during 1918.	44	17	7.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	100 per cent	100 per cent	71 per cent.
9. What percentage of permanently partially disabled were able to resume original occupation?	79½ per cent	29 per cent	None.
10. (a) Who makes physical examination of applicants for service?	Physical examination not required	Physical examination not required	Physical examination not required.
(b) Who approves applications from a medical standpoint?			
11. Are applicants requiring examination on colors, vision, and hearing examined by layman or doctor?	Laymen	In the past trainmasters; effective July 1, medical examiners of relief and pension department.	Layman.
12. Are laymen considered competent to conduct examinations of employees on vision, color, and hearing?	Yes	No	Yes.
13. Has the claims department any authority over surgical department?	No	No	No.
14. Who is responsible for:			
(a) Sanitation of the railroad?	Safety department and chief surgeon	In case of epidemic, chief surgeon	Chief surgeon.
(b) Health of employees?	do		Do.
(c) Who initiates the action?	do		Do.

QUESTIONNAIRE 1.—SOUTHERN REGION.

1-2. Name of railroad. Location of eral office.	Alabama & Vicksburg R. R., New Orleans, La.	Alabama Great Southern, R. R., Cincinnati, Ohio.	Atlanta & West Point Ry., Western Ry. of Ala., Atlanta, Ga.	Atlanta, Birmingham & Atlantic R. R., Atlanta, Ga.	Atlanta Joint Terminals, Atlanta, Ga.	Atlantic Coast Line, Wilmington, N. C.	Carolina, Clinchfield & Ohio R. R., Johnson City, Tenn.	Central of Georgia R. R., Savannah, Ga.
3. Number of employees:								
Male	662	2,350	1,395	2,968	725	23,879 and female	1,824	8,362.
Female	59	52	155	296	50		46	445.
4-5. Is there medical organization? Nature of same.	Surgical staff	Surgical staff	Surgical staff	Surgical staff	Surgical staff	Surgical staff	Surgical staff	Surgical staff.
6. Name and address of chief surgeon	Dr. W. A. Applegate, Washington, D. C.	Dr. W. A. Applegate, Washington, D. C.	Dr. W. S. Goldsmith, Atlanta, Ga.	Dr. W. S. Elkin, Atlanta, Ga.	Dr. W. S. Elkin, Atlanta, Ga.	Dr. G. G. Thomas, Wilmington, N. C.	Dr. M. H. Biggs, Rutherfordton, N. C.	Dr. Craig Barrow Savannah, Ga.
7. How many company surgeons?	9	37	22	42	3	172	15	107.
8-9. Is there relief department? Nature of same.	No	No	No	No	No	Mutual benefit association.	No	No.
10. Is there a pension fund? Give regulations.	No	Yes; rules attached	Yes; rules attached	No	No	Yes; rules attached	No	Yes; rules attached.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom, and scope of work?	By company surgeons at shops.	By company surgeons at shops.	Yes; to shop, extra, and bridge gang foremen.	No	Shop foremen and yardmaster instructed.	No	No	By company surgeons and superintendent.
13. How much has safety-first movement influenced injuries?	Material reduction	Material reduction	Reduction	Substantial results	Favorable results	No change	No data	Very little.
14. Are applicants required to undergo physical examination? What departments?	Operating department	Operating department	Train service	Transportation department.	All, except laborers	All departments	No	All, except laborers and shopmen.
15. Is there an age limit? Give maximum and minimum for various classes.	No	No	21-40, train service	21-35, train service; telegraphers, 18; apprentices, 16.	21-50, transportation department.	45 maximum all departments.	45 maximum train service.	35 maximum inexperienced; 45 maximum experienced.
16. Is examination for promotion required? In what departments?	Train service	Train service	No	Transportation department.	No	No	Transportation department.	Train service.
17. Is there periodic examination, operating department?	Yes	Yes	No	No	No	No	No	Yes.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	No	No	No	No	Females; by company.	No	No	Females; by company.
19. Is smallpox vaccination required of applicants?	No	No	No	Yes	Yes	No	No	Yes.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	Yes	No	No.
21. What treatment for, or prevention of, venereal diseases?	None	None	None	None	None	None	None	None.
22-23. Is there a sanitary inspector, medical or lay? What are his duties?	No	No	No	No	No	Yes; medical. Advice on sanitary measures.	No	Yes; both. General inspection; weekly reports.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	No	No	No	No	No	No	No	No.
26. Compare results of treatment of injured—compensation law and railroad.								
27. Any consideration given housing employees?	Section employees	Section employees	Roadway forces	Roadway employees.	No	No	At outlying points	No.
28. What instruction in personal hygiene?	None	None	None	None	None	None	None	None.
29 What supervision over food and drink in restaurants and dining cars?	Water certified; traveling inspectors; employees examined.	Water certified; traveling inspectors; employees examined.	None	None	None operated	Water certified; no restaurants.	None operated	Thorough inspection; reports rendered.
30. What precautions against malaria?	None	None	None	None	None	Screening; drainage.	None	Drainage.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	Bulletins posted	Bulletins posted	Bulletins posted	None	None	None.

1-2. Name of railroad. Location of general office.	Charleston & Western Carolina R. R., Atlanta, Ga.	Cincinnati, New Orleans & Texas Pacific, Cincinnati, Ohio.	Florida East Coast R. R., St. Augustine, Fla.	Georgia Railroad, Atlanta, Ga.	Gulf & Ship Island R. R., Hattiesburg, Miss.	Gulf, Mobile & Northern R. R., Mobile, Alabama.	Illinois Central R.R., Chicago, Ill.	Kentucky & Indiana Terminal, Louisville, Ky.
3. Number of employees:								
Male	1,200	5,863	3,230	1,590	1,100	1,343	46,780	1,010.
Female	40	282	74	100	55	46	2,378	21.
4-5. Is there medical organization? Nature of same.	Surgical staff	Surgical staff	Hospital association.	Surgical staff	Hospital association.	Hospital association.	Hospital association.	No.
6. Name and address of chief surgeon.	Dr. W. H. Doughty, jr., Augusta, Ga.	Dr. J. Ransohoff, Cincinnati, Ohio.	Dr. M. W. Seagears, St. Augustine, Fla.	Dr. W. H. Doughty, jr., Augusta, Ga.	Dr. T. E. Ross, Hattiesburg, Miss.	Dr. C. H. Ramsay, Laurel, Miss.	Dr. G. G. Dowdall, Chicago, Ill.	Dr.E.C. Underwood, Louisville, Ky.
7. How many company surgeons?	21	30	41	25	47	40	497	1.
8-9. Is there a relief department? Nature of same.	No	No	No	No	No	No	No	No
10. Is there pension fund? Give regulations.	No	Yes; rules attached	No	Yes; rules attached	No	No	Yes; rules attached	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	Yes, in railroad hospitals. Kinesotheraphy specialist.	No.
12. Do you instruct in first aid? By whom and scope of work?	No	By company surgeons at shops.	No	No	No	No	By company surgeons at shops and division points.	By company surgeon.
13. How much has safety-first movement influenced injuries?	Reduction	Good results	25 per cent	Reduction	20 per cent	Good results	Good results	No data.
14. Are applicants required to undergo physical examination? What departments?	No	All departments	All departments	Train service on vision and hearing.	Operating and mechanical departments.	Operating department.	All departments	Operating and mechanical departments.
15. Is there an age limit? Give maximum and minimum for various classes.	21-45 train service	N	45 maximum all departments.	21-35 train service, 21-50 shopmen, 21-16 shop apprentices.	No	21-45 all except clerks.	16-55, 19 minimum train service.	21-45 operating department.
16. Is examination for promotion required? In what departments?	No	Operating and mechanical departments.	No	No	Operating and mechanical departments.	No	Transportation departments.	No.
17. Is there periodic examination in operating department?	No	Yes	No	No	No	No	Yes	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	No	No	No	No	No	No	Yes; by company	Yes; by company.
19. Is vaccination against smallpox required of applicants for service?	No	Yes	Yes	Yes	No	Yes; in train service	Yes; in transportation department.	No.
20. Are employees given benefit of antityphoid immunization?	No	No	Yes	No	Yes	No	Yes	No.
21. What treatment for, or prevention of, venereal diseases?	None	None	None	None	None	None	None	None.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	No	No	No	No	No.	No	Yes; medical. General inspection report and recommendation.	Yes; medical. General inspection.
24. Do you have sanitary inspection of cars, buildings, etc?	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	No	No	No	No	No	No	Yes; 5	No.
26. Compare results treatment of injured—compensation law and railroad.							All cared for by railroad surgeons.	
27. Any consideration given housing employees?	For track men	No	Yes	Track employees	No	Roadway employees at outlying points.	At larger shop points.	No.
28. What instruction in personal hygiene?	None	None	None	None	None	None	None	As to cleanliness by chief surgeon.
29. What supervision exercised over food and drink in restaurants and dining cars?	None	Resturant mangers, 6 dining car inspectors. Water certified.	State and Federal inspectors.	None	Frequent inspection	None operated	Regular inspection	None operated.
30. What precautions against malaria.	None	None	None	None	Screening. Government oils pools, etc.	None	Screening, drainage, oiling. Quinine furnished.	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc?	Bulletins posted	None	None	Bulletins posted	None	Bulletins posted	Lectures. Articles in railroad magazine.	None.

QUESTIONNAIRE 1.—SOUTHERN REGION—Continued.

1-2. Name of railroad. Location of general office.	Louisville & Nashville R.R., Louisville, Ky.	Louisville, Henderson & St. Louis, Louisville, Ky.	Memphis Union Station, Memphis, Tenn.	Mobile & Ohio R. R., Mobile, Ala.	Nashville, Chattanooga & St. Louis R. R., Nashville, Tenn.	New Orleans & Northeastern R. R., New Orleans, La.	New Orleans Great Northern R. R., Hattiesburg, Miss.	Norfolk Southern R. R., Norfolk, Va.
3. Number of employees:								
Male	42,021	847	296	6,952	10,088	3,627	867	3,414.
Female	1,567	32	80	339	214	103	41	203.
4-5. Is there medical organization? Nature of same?	No	Surgical staff	No	Surgical staff	Surgical staff	Surgical staff	Hospital association.	Surgical staff.
6. Name and address of chief surgeon		Dr. J. V. Prewitt, Louisville, Ky.	Dr. W. S. Anderson, Memphis, Tenn.	Dr. H. T. Inge, Mobile, Ala.	Dr. Duncan Eve, sr., Nashville, Tenn.	Dr. W. A. Applegate, Washington, D. C.	Dr. E. E. Lafferty, Bogalusa, La.	Dr. R. L. Payne, Norfolk, Va.
7. How many company surgeons?	260	9	1	111	52	20	20	77.
8-9. Is there a relief department? Nature of same?	No	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations.	Yes; rules attached	No	No	No	Yes; rules attached	Yes; rules attached	No	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	No	No	No	No	By chief surgeon at shops.	By company surgeons at shops.	No	No.
13. How much has safety first movement influenced injuries?	No data	No data	No data	57 per cent first 8 months.	No material change	Material reduction	Decrease	No data.
14. Are applicants required to undergo physical examination? What departments?	No	Train service	Engine and yard men.	Operating department.	Train service	Operating department.	Train service	Operating and mechanical departments.
15. Is there an age limit? Give maximum and minimum for various classes.	21-30, firemen	30 maximum, train service.	21-45 operating department, 16 minimum others.	21-45 operating department, 18-45 mechanical department.	21 minimum, train service.	No	21-50, train service	No.
16. Is examination for promotion required? In what departments?	No	Transportation, mechanical, and roadway departments.	No	Operating department.	No	Operating department.	Train service	No.
17. Is there periodic examination in operating department?	Train service	No	No	No	No	Yes	No	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	Females, by company	Females, by company	No	No	No	No	No	No.
19. Is vaccination against smallpox required of applicants for service?	No	No	No	No	No	No	No	No.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	No	No	No.
21. What treatment for or prevention of venereal diseases?	None	Require treatment if known.	None	None	None	None	None	None.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	No	No	No	No	No	No	No	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	No	No	No	Yes	No	No.
25. Are you working under State compensation laws? In how many States?	Yes; 2	No	No	Yes; 1	No	Yes; 1	No	No.
26. Compare results of treatment of injured—compensation law and railroad.	No data			All cared for by railroad surgeons.		No data		
27. Is any consideration given housing employees?	No	Yes	No	No	Section men	Section men	Yes	Section foremen.
28. What instruction in personal hygiene?	None	None	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	None	None operated	None operated	No diners. Restaurants, private control.	Dining car managers.	Inspectors. Water certified by State. Employees examined.	None	None operated.
30. What precautions against malaria?	None	Screening	None	Screening	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	None	None	None	None	None	None.

1-2. Name of railroad. Location of general office.	Richmond, Fredericksburg & Potomac, and Washington Southern R. R., Richmond, Va.	Seaboard Air Line, Norfolk, Va.	Southern Railroad Washington, D. C.	Southern Ry. in Mississippi. Mobile, Ala.	Tennessee Central R. R., Nashville, Tenn.	Union Railway, Memphis, Tenn.	Yazoo & Mississippi Valley R. R., Chicago, Ill.
3. Number of employees:							
Male	2,900	17,763	47,363	866	1,444	503	8,614.
Female	250	762	2,485	25	40	26	217.
4-5. Is there medical organization? Nature of same.	No	No	Surgical staff	Surgical staff	Surgical staff	No	Hospital association.
6. Name and address of chief surgeon	Dr. W. T. Oppenheimer, Richmond, Va.	Dr. J. M. Burke, Petersburg, Va.	Dr. W. A. Applegate, Washington, D. C.	Dr. H. T. Inge, Mobile, Ala.	Dr. L. E. Burch, Nashville, Tenn.	Dr. A. B. DeLoach. Memphis, Tenn.	Dr. G. G. Dowdall, Chicago, Ill.
7. How many company surgeons?	5	225	529	20	19	1	121.
8-9. Is there a relief department? Nature of same.	No	No	No	No	No	No	Mutual benefit association.
10. Is there a pension fund? Give regulations.	No	No	Yes; rules attached	No	No	No	Yes; rules attached.
11. Is there a reconstruction department for education of injured employees.	No	No	No	No	No	No	Yes, in railroad hospitals. Kinesotheraphy specialist.
12. Do you instruct in first aid? If so, by whom, and scope of work.	No	No	By company surgeons at shops.	No	No	No	By company surgeons at shops and division points.
13. How much has safety first movement influenced injuries?	No data	Reduction	Material reduction	Material reduction	No material reduction	Reduction	Good results.
14. Are applicants required to undergo physical examination? In what departments?	Operating and mechanical departments.	Train service	Operating department	Operating department	Operating department	Operating department	All departments.
15. Is there an age limit? Give maximum and minimum for various classes.	21-28 operating department.	30 maximum train service.	No	21-45 operating department, 18-45 mechanical department.	No	21-45 operating department, 16 minimum others.	16-55, 19 minimum train service.
16. Is examination for promotion required? In what departments?	Operating department	No	Operating department	Operating department	Operating department	Yes	Transportation department.
17. Is there periodic examinations in operating department?	No	No	Yes	No	No	No	Yes.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	No	No	Yes; by company	No	No	No	Yes; by company.
19. Is vaccination against smallpox required of applicants for service?	No	No	No	No	Yes, in operating department.	No	Yes, in transportation department.
20. Are employees given benefit of typhoid immunization?	No	No	No	No	No	No	Yes.
21. What treatment for, or prevention of venereal diseases?	None	None	None	None	None	None	None.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	No	No	No	No	No	No	Yes, medical. General inspection, report and recommendation.
24. Do you have sanitary inspection of cars, buildings, etc.?	No	Yes	Yes	No	Yes	No	Yes.
25. Are you working under State compensation laws? In how many States?	No	No	Yes, 1	No	No	No	Yes, 1.
26. Compare results treatment of injured, compensation law and railroad.			All, cared for by railroad surgeons.				All cared for by railroad surgeons.
27. Is any consideration given housing employees?	No	Section men	Section men	No	No	No	Yes.
28. What instruction in personal hygiene?	None	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars.	None	Superintendent dining cars. Passenger service agents, superintendent passenger operation.	Traveling inspectors. Water certified. Employees examined. No restaurants.	No diners. Restaurants privately operated.	None	None operated	Regular inspection.
30. What precautions against malaria?	None	None	None	Screening	None	None	Screening, drainage, oiling. Quinine furnished.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	None	None	None	None	Lectures. Articles in railroad magazine.

QUESTIONNAIRE 2.—SOUTHERN REGION.

Name of railroad	Alabama Great Southern R. R.	Alabama & Vicksburg R. R.	Atlanta & West Point R.R., Western Ry. of Alabama.	Atlanta, Birmingham & Atlantic R. R.	Atlantic Coast Line R. R.	Atlanta Joint Terminals.	Carolina, Clinchfield & Ohio R. R.	Central of Georgia R. R.
1. Chief surgeon:								
(a) Appointed by	General solicitor	General solicitor	Federal manager	Federal manager	Board of directors	Federal manager	General solicitor	General manager.
(b) Reports to	Law department	Law department	do	do		do	Law department	Do.
2. Local surgeons:								
(a) Appointed by	Chief surgeon and law department.	Chief surgeon and law department.	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon, approval general superintendent and assistant general solicitor.	Chief surgeon.
(b) Report to	Chief surgeon	Chief surgeon	do	do	do	do	Assistant general solicitor.	Do.
3. Compensation—company surgeons. Salary, fee table or pass only.	Fee table	Fee table	Fee table	Fee table	Fee table	Fee table	Nominal salary and annual pass.	Salary, others fees and pass.
4. Pass privilege:								
(a) To local surgeons	Southern Railroad lines annual.	Southern Railroad lines annual.	System annual	System annual	Passes for self and family over Atlantic Coast Line.	System annual	System and Southern Railroad annual.	Annual system pass.
(b) Their families	do	do	Trip passes	Trip passes	do	Trip passes	Trip over system and Southern Railroad.	
5. How are injury cases cared for in absence of hospital association?	Arrangements with hospitals.	Arrangements with hospitals.	Arrangements with hospitals at fixed rates.	Arrangements with hospitals at fixed rates.	Relief department has two hospitals.	Arrangements with hospitals at fixed rates.	Contracts with hospitals.	Contracts with hospitals.
6. Number of employees permanently totally disabled during 1918.	1	None	None	None	25 deaths	None	4	17.
7. Number of employees permanently partially disabled during 1918.	5	2	3	1	2,589 accidents reported.	1	17	5.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	100 per cent	100 per cent	100 per cent	100 per cent		100 per cent	100 per cent	100 per cent.
9. What percentage of permanently partially disabled were able to resume their original occupation?	80 per cent	100 per cent	None	None		None	82 per cent	40 per cent.
10. (a) Who makes physical examination of applicants for service?	Company surgeons	Company surgeons	Company surgeons	Company surgeons	Medical examiners	Company surgeons	Not required	Company surgeons.
(b) Who approves applications from a medical standpoint?	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon (medical director relief department).	Chief surgeon		Chief surgeon.
11. Are applicants requiring examination on vision, hearing, and colors examined by layman or doctor?	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor.
12. Are laymen considered competent to conduct examination of employees on vision, hearing, and colors?	No	No	No	No	No	No	No	No.
13. Has the claims department any authority over surgical department?	No	No	No	No	Yes	No	No	No.
14. Who is responsible for:								
(a) Sanitation of the railroad	Superintendents	Superintendents	Department heads	Department heads	Medical director, relief department.	Department heads	Superintendent	Chief surgeon and general manager.
(b) Health of the employees	No organization	No organization	do	do	do	do		Chief surgeon and staff.
(c) Who initiates the action	Officer in charge	Officer in charge	do	do		do		Chief surgeon.

Name of railroad	Charleston & Western Carolina R. R.	Cincinnati, New Orleans & Texas Pacific R. R.	Florida East Coast R. R.	Georgia Railroad.	Georgia & Florida R. R., Augusta Southern R. R.	Georgia, Florida & Alabama R. R.	Georgia Southern & Florida R. R.	Gulf & Ship Island R. R.
1. Chief surgeon:								
(a) Appointed by	Federal manager	General solicitor	Federal manager	Federal manager	General superintendent.	Board of directors	Vice president	General manager.
(b) Reports to	do	General manager	do	do	do	General superintendent.	Law department	Do.
2. Local surgeons:								
(a) Appointed by	Chief surgeon	Superintendent	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Do.
(b) Report to	do	do	do	do	do	do	do	Chief surgeon.
3. Compensation, company surgeons, salary, fee table or pass only.	Fee table	8, salary; 22, fees	Fee table	Fee table	Fee table	Fees and passes	Fees table	Pass only.
4. Pass privilege:								
(a) To local surgeons	System annual	Annual pass	System annual	System annual	Annual pass	Passes for self only	System annual	Local passes.
(b) Their families	Trip passes	Trip (some annual) passes.	Trip passes intrastate	Trip passes	Trip passes			
5. How are injury cases cared for in absence of hospital association?	Arrangements with hospitals at fixed rates.	Arrangements with five hospitals.	Hospital association.	Arrangements with hospitals at fixed rates.	No arrangements	No arrangements	Arrangements with hospitals.	Hospital association.
6. Number of employees permanently Totally disabled during 1918.	None	2	1	None	None	None	3	None.
7. Number of employees permanently partially disabled during 1918.	None	15	1	1	1	None	4	5.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?		100 per cent	100 per cent	100 per cent	100 per cent		100 per cent	100 per cent.
9. What percentage of permanently partially disabled were able to resume their original occupation?		93⅓ per cent	None	None	100 per cent		25 per cent	100 per cent.
10. (a) Who makes physical examination of applicants for service?	Company surgeons	Company surgeons	Chief surgeon	Company surgeons	Not required	Not required		Chief surgeon.
(b) Who approves applications from a medical standpoint?	Chief surgeon	Chief surgeon	do	Chief surgeon			Chief surgeon	Do.
11. Are applicants requiring examination on vision, hearing, and colors examined by layman or doctor?	Doctor	Doctor	Doctor	Doctor	Doctor	Not required	Doctor	Doctor.
12. Are laymen considered competent to conduct examination of employees on vision, hearing, and colors?	No	No	No	No	No	No	No	Yes.
13. Has the claims department any authority over surgical department?	No	No	No	No	Yes	No	Law department originates all vouchers; does not control.	No.
14. Who is responsible for—								
(a) Sanitation of the railroad	Department heads	Chief engineer; superintendent motive power.	Chief surgeon	Department heads	Safety department	General superintendent.	General superintendent.	Operating department.
(b) Health of the employees	do	No organization	do	do	do	No one	do	Do.
(c) Who initiates the action	do	Department heads	do	do	do	do	do	Do.

QUESTIONNAIRE 2.—SOUTHERN REGION—Continued.

Name of railroad	Illinois Central R. R., Yazoo & Mississippi Valley R. R.	Kentucky & Indiana Terminal R. R.	Louisville & Nashville R. R.	Louisville, Henderson & St. Louis R. R.	Union R. R., Memphis Union Station.	Mississippi Central R. R.	Missouri & North Arkansas R. R.	Mobile & Ohio R. R., Gulf, Mobile & Northern R. R., Southern R. R. in Mississippi.
1. Chief surgeon:								
(a) Appointed by	Management	Chief operating officer.		General manager		General manager		General manager (now Federal).
(b) Reports to	do	do		General solicitor		do		Do.
2. Local surgeons:								
(a) Appointed by	Chief surgeon	do	Division superintendents.	General manager	General superintendent.	do	Claim agent	Chief surgeon.
(b) Report to	do	do	do	General solicitor	do	Chief surgeon	do	Do.
3. Compensation, company surgeons—salary, fee table, or pass only	Salary, fees, none pass only.	Pass only, local surgeon.	Few by salary, others fees.	Pass and fees	Fee table	Pass only	3 by nominal salary, 3 at 50 per cent regular charge, 35 pass only.	Fee table and a pass.
4. Pass privilege:								
(a) To local surgeons	Annual pass on road employed.	Trip passes to chief surgeon only.	Annual pass, restricted; L. & N. trip passes.	Annual for self and wife.	None	Local passes	System pass	Passes on line employed.
(b) Their families	None							
5. How are injury cases cared for in absence of hospital association?	Hospital association	Sent to designated hospital.	Arrangements with hospitals.	No arrangements	No arrangements	Hospital association	Use designated hospitals.	Arrangements with hospitals.
6. Number of employees permanently totally disabled during 1918.	No record	None	None	1	None	None	None	None.
7. Number of employees permanently partially disabled during 1918.	do	2	45	3	do	3	do	18.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?		100 per cent	100 per cent	100 per cent		100 per cent		
9. What percentage of permanently partially disabled were able to resume their original occupation?		None	60 per cent	100 per cent		100 per cent		83 per cent.
10. (a) Who makes physical examination of applicants for service?	Company surgeons	Chief surgeon	No examination made.	Chief surgeon	Company surgeon	Chief surgeon	Company surgeons	Company surgeons.
(b) Who approves applications from a medical standpoint?	Chief surgeon							Chief surgeon.
11. Are applicants requiring examination on vision, color, and hearing examined by layman or doctor?	Doctor	Doctor	Layman	Doctor	Doctor	Doctor	Doctor	Doctor.
12. Are laymen considered competent to conduct examination on vision, hearing, colors?	No	No	Yes	Yes	No	Yes	No	No.
13. Has the claims department any authority over the surgical department?	No	No	No	Yes	No	No	Yes	No.
14. Who is responsible for—								
(a) Sanitation of the railroad	Health officer, who is under the chief surgeon.	Chief surgeon	Superintendents	General manager	Station master	Operating department.	Department heads	Division superintendents.
(b) Health of the employees	Hospital association	do	do	do			do	No provision.
(c) Who initiates the action	Chief surgeon	Chief operating officer	do	do			do	Federal manager.

Name of railroad	Nashville, Chattanooga & St. Louis R. R., Tennessee Central R. R.	New Orleans & Northeastern R. R.	New Orleans Great Northern R. R.	Norfolk Southern R. R.	Piedmont & Northern R. R.	Richmond, Fredericksburg & Potomac R. R., Washington Southern R. R.	Seaboard Air Line R. R.	Southern Ry.
1. Chief surgeon:								
(a) Appointed by	General manager	General solicitor	General manager	Federal manager	General solicitor	Federal manager	President	General solicitor.
(b) Reports to	do	Law department	do	General superintendent.	Claim agent	do	General solicitor	Law department.
2. Local surgeons:								
(a) Appointed by	Chief surgeon	Chief surgeon	do	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon and law department.
(b)	do	do	Chief surgeon	do	do	do	do	Chief surgeon.
3. Compensation—company surgeons.—salary, fee table or pass only.	Fees and pass on road employed.	Fee table	Pass only	Fee table	Fees	Fees	Salary, others $1 per year and pass.	Fee table.
4. Pass privilege:								
(a) To local surgeons	On line employed for self.	Southern R. R. Lines, annual.	Local pass privileges.	Annual pass	Local passes	Annual passes	System annual	Southern R. R. Lines annual.
(b) Their families		Southern R. R. Lines, trip.		Trip passes				Do.
5. How are injury cases cared for in absence of Hospital Association?	Cared for at regular rates	Arrangements with hospitals at various points.	Hospital association	Contract providing flat rate per day.	No arrangements	Sent to designated hospitals.	No arrangements	Arrangements with hospitals at various points.
6. Number of employees permanently totally disabled during 1918.	None	3	None	None	1	None	None	5.
7. Number of employees permanently partially disabled during 1918.	13	13	6	15	None	2	24	112.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	100 per cent	100 per cent	100 per cent	100 per cent		100 per cent	No record	93 per cent.
9. What percentage of permanently partially disabled were able to resume their original occupation?	77 per cent	93 per cent	100 per cent	55 per cent		None	do	59 per cent.
10. (a) Who makes physical examination of applicants for service?	Chief surgeon	Company surgeons	Chief surgeon	Company surgeons	Company surgeon	Chief surgeon	None made	Company surgeons.
(b) Who approves applications from a medical standpoint?		Chief surgeon		Chief surgeon	Chief surgeon			Chief surgeon.
11. Are applicants requiring examination on vision, hearing, and colors examined by laymen or doctor?	Doctor	Doctor	Doctor	Doctor	Doctor	Layman	Doctor	Doctor.
12. Are laymen considered competent to conduct examination of employees on vision, hearing, and colors?	No	No	Yes	No	No	Yes	No	No.
13. Has the claims department any authority over surgical department?	No	No	No	No	Yes	No	Yes	No.
14. Who is responsible for:								
(a) Sanitation of the railroad?	General manager	Superintendents, master mechanics.	Operating department.	Chief surgeon and staff.	Conditions are reported to chief surgeon by claim agents office.	Department heads	General manager	Superintendents, master mechanics.
(b) Health of the employees?	do	No organization	do	No one		do	do	No organization.
(c) Who initiates the action?	do	Officer in charge	do	Superintendents		do	do	Officer in charge.

QUESTIONNAIRE 1.—NORTHWESTERN REGION.

1-2. Name of railroad. Location of general office.	Belt R. R. of Chicago. Chicago, Ill.	Chicago & Western Indiana R. R., Chicago.	Chicago & North Western R. R., Chicago, Ill.	Chicago Great Western R. R., Chicago Ill.	Chicago Junction R. R., Chicago, Ill.	Chicago, Milwaukee & St. Paul R. R., Chicago, Ill.	Chicago, St. Paul, Minneapolis & Omaha R. R., St. Paul, Minn.	Duluth & Iron Range R. R., Duluth, Minn.
3. Number of employees:								
Male	1,781	1,750	46,169	7,706	2,148	58,463	8,879	1,480.
Female	85	105	2,168	500	137	3,523	475	113.
4-5. Is there medical organization? Nature same.	Surgical staff	No	Surgical staff	No	Surgical staff	Surgical staff. Hospital association on western lines.	Surgical staff	Hospital association.
6. Name and address of chief surgeon.	Dr. W. H. Bohart, Chicago, Ill.	Dr. F. A. Lofton, Chicago, Ill.	Dr. C. W. Hopkins, Chicago, Ill.		Dr. R. Robinson Duff, Chicago, Ill.	Dr. A. I. Bouffleur, Seattle, Wash.; Dr. B. F. Lounsbury, Chicago, Ill.	Dr. Archibald McLaren, St. Paul, Minn.	Drs. Burns & Christensen, Two Harbors, Minn.
7. How many company surgeons	5	1	375	90	2	533	67	11.
8-9. Is there a relief department? Nature of same.	No	No	No	No	No	No	Mutual benefit association.	No.
10. Is there a pension fund? Give regulations.	No	No	Yes; rules attached	No	No	No	Yes; rules attached	Yes; rules attached.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	No	By company surgeons. Occasional lectures.	By company surgeons.	No	By chief surgeon periodically.	By local surgeons and Red Cross.	By safety bureau at shops, terminals, etc.	By chief surgeon and picked employees.
13. How much has safety first movement influenced injuries?	No data	No data	767 fewer deaths, 20,096 fewer injuries in 8½ years.	58.4 per cent, 1918-1912.	No data	30 per cent 1918-1917.	6 per cent 1918-1917	Reduction.
14. Are applicants required to undergo physical examination? In what departments?	Train service	Train service	All departments except clerical.	Operating and mechanical departments.	Train service	Operating department; inspectors and foremen other departments.	Operating department.	Train service.
15. Is there an age limit? Give maximum and minimum for various classes.	21-45 train service	21 minimum train service.	21-35 all departments.	No	No	18-35 inexperienced train service.	21-35 all departments.	21-35 train service.
16. Is examination for promotion required? In what departments?	Firemen	Train service	Train service; section foremen.	Operating department.	No	Operating department.	Train service	No.
17. Is there periodic examination in operating department?	No	No	Annual if over 50 years and for those wearing glasses.	Semiannual	No	Vision only	No	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	Females, by company	No	Females, by company.	At isolated points for trainmen.	Yes; by company	Females at general offices, by company.	Females, by company.	No.
19. Is vaccination against smallpox required of applicants for service?	Yes; on entrance into service.	Yes	No	No	No	Yes; operating department.	No	No.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	Yes; on western lines	No	Yes.
21. What treatment for, or prevention of, venereal diseases?	None	None	None	None	None	None	None	None.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	No	No	Yes; medical. General inspection.	Yes; lay. Frequent inspection.	No	No	Yes; lay. Inspect building.	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	Yes; 1	Yes; 1	Yes; 5	Yes; 2	Yes; 1	Yes; 3	No	No.
26. Compare results treatment of injured—compensation law and railroad.	All cared for by railroad.	All cared for by railroad.	Practically the same.	All cared for by railroad surgeons.	All cared for by railroad.	All cared for by railroad surgeons.		
27. Any consideration given housing employees?	Yes	Yes	No	No	No	Yes	No	Station agents.
28. What instruction in personal hygiene?	None	None	None	None	None	None	None	Bulletins posted.
29. What supervision exercised over food and drink in restaurants and dining cars?	None operated	City regulations as to restaurants.	Sanitary inspector and dining car inspectors.	Dining car superintendent.	None operated	State inspection	Dining car superintendent and inspector.	None operated.
30. What precautions against malaria.	None	None	None	None	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc?	Bulletins posted	Bulletins posted	None	None	None	None	None	Bulletins and literature.

1-2. Name of railroad. Location of general office.	Duluth, Missabe & Northern R. R., Duluth, Minn.	Duluth, So. Shore & Atlantic R. R., Marquette, Mich.	Elgin, Joliet & Eastern R. R., Chicago, Ill.	Ft. Dodge, Des Moines & Southern R. R., Boone, Ia.	Great Northern R. R., St. Paul, Minn.	Indiana Harbor Belt R. R., Gibson, Ind.	Minneapolis & St. Louis R. R., Minneapolis, Minn.	Minneapolis, St. Paul & Sault Sainte Marie R. R., Minneapolis, Minn.
3. Number of employees:								
Male	1,816	2,410	6,454	442	37,110	2,939	5,235	13,200
Female	33	142	163	23	2,168	216	245	690.
4-5. Is there medical organization—nature same?	Hospital association	No	Surgical staff	Surgical staff	No	Surgical staff	No	Surgical staff.
6. Name and address of chief surgeon			Dr. James Burry, Chicago.	Dr. G. H. Stanger, Boone, Ia.	Dr. J. A. Quinn, St. Paul.	Dr. F. E. Pierce, Chicago.		Dr. J. H. Rishmiller, Minneapolis, Minn
7. How many company surgeons?	16	34	20	10	221	12		140.
8-9. Is there a relief department? Nature of same.	No	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulation.	Yes, rules attached	No	Yes, rules attached	No	Yes, rules attached	No	No	Yes, rules attached.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	Squads are organized	By company surgeon	No	Instruction to linemen, shopmen, etc.	By company surgeons.	By train rule examiners in classes.	By Red Cross periodically.	By company surgeons and Red Cross car.
13. How much has safety first movement influenced injuries?	Good results	Good results	No data	No data	Material reduction	17 per cent 1918-1917.	No data	No data.
14. Are applicants required to undergo physical examination? In what departments?	No	Operating department	No	Operating and mechanical departments.	Train service—others, vision and hearing.	Operating department.	Train service	Operating department.
15. Is there an age limit? Give maximum and minimum for various classes.	No	21 minimum train service.	No	No	21-45 train service	No	No	35 maximum inexperienced, 45 maximum experienced.
16. Is examination for promotion required? In what departments?	No	Train service	No	No	Train service	No	No	Train service.
17. Is there periodic examination operation department?	No	Train service—vision and hearing.	Annual	No	Every 4 years	No	Vision and hearing	Train service on vision and hearing.
18. Are rest rooms provided for male and female employees? How furnished and cared for.	Male, by company	No	No	No	Yes, by company	No	No	Females, by company.
19. Is vaccination against smallpox required of applicants for service?	No	Yes, all physically examined.	No	No	Yes, all physically examined.	No	No	Yes, all physically examined.
20. Are employees given benefit of antityphoid immunization?	No	No	No	No	No	No	No	No.
21. What treatment for, or prevention of, venereal diseases?	None	None	None	None	None	None	None	Male nurse at hospital. Those afflicted are laid off.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	No	Yes	No	No	No	No	No	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	No	No.	Yes	No	Yes	Yes	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	No	Yes—1	Yes—2	Yes—1	Yes—9	Yes—1	Yes—3	Yes—2.
26. Compare results treatment of injured—compensation law and railroad.		Cared for by railroad. Law provides only for time lost.	All cared for by railroad.	Same	No data		When under compensation law seem to recover more expeditiously.	Same.
27. Any consideration given housing employees?	Yes	Yes	No	No	No	No	No	Yes.
28. What instruction in personal hygiene?	None	None	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars.	Water inspected by State.	By committee of United States Railroad Administration and dining car department.	None operated	None operated	Inspectors make frequent inspection.	None operated	None operated. Restaurants under local contractors.	State regulations and supervision by commissary.
30. What precautions against malaria?	None	None	None	None	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	None	None	Bulletins	Public Health Service circulars.	Lectures by Red Cross.	None.

QUESTIONNAIRE 1.—NORTHWESTERN REGION—Continued.

1–2. Name of railroad. Location of general office.	Minnesota & International, Brainerd, Minn.	Minnesota Transfer, St. Paul, Minn.	Northern Pacific R. R., St. Paul, Minn.	Oregon-Washington R. R. & Navigation, Portland, Oreg.	Pullman Car Lines, Chicago, Ill.	St. Paul Union Depot, St. Paul, Minn.	Spokane, Portland & Seattle R. R., Portland, Oreg.	Waterloo, Cedar Falls & Northern, Waterloo, Iowa.
3. Number of employees:								
Male	330	973	31,163	8,851	16,087	447	2,788	291.
Female	25	127	2,198	816	2,700	27	282	22.
4–5. Is there a medical organization? Nature of same?	No	No	Hospital association.	Hospital association.	Department of Sanitation and Surgery.		Hospital association.	Surgical staff.
6. Name and address of chief surgeon.	Dr. A. W. Ide, Brainerd, Minn.	Dr. S. G. Cobb, St. Paul, Minn.	Dr. A. W. Ide, Brainerd, Minn., Dr. R. H. Beach, Glendive, Mont., Dr. G. M. Jennings, Missoula, Mont., Dr. P. A. Remington, Tacoma, Wash.	Dr. K. A. J. Mackenzie, Portland, Oreg.	Dr. T. R. Crowder, Chicago, Ill.		Dr. E. B. McDaniel, Portland, Oreg.	Dr. E. T. Alford, Waterloo, Iowa.
7. How many company surgeons?	7	2	296	67			31	7.
8–9. Is there a relief department? Nature of same.	No	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations.	No	No	No	Yes; rules attached.	Yes; rules attached.	No	No	No.
11. Is there a reconstruction department for education of injured employees.	No	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work.	No	By company surgeon periodically.	By company surgeons and specially instructed employees.	By company surgeons and Red Cross.	No	By Red Cross doctor.	No	No.
13. How much has safety-first movement influenced injuries?	More minor injuries reported than before.	25 per cent, 1918–1917.	No decrease	20 per cent 1918–1916.	No data	20 per cent	No data	Beneficial results.
14. Are applicants required to undergo physical examination? In what departments?	Train and station service.	No	Operating department.	Operating and mechanical departments.	Train service	Operating department on vision and hearing.	Train service	Operating department and section foremen.
15. Is there an age limit? Give maximum and minimum for various classes.	16–45 all departments	No	19–45 train service	21–45 all departments	25–45 conductors, porters; 16–45 office-yard forces.	21–35 operating department.	18 minimum train and yard service.	21–45 train service, experienced; 21–35 train service, inexperienced.
16. Is examination for promotion required? In what departments?	Train service on vision, colors and hearing.	Locomotive departments.	Operating department on colors, vision and hearing.	Operating department.	No	Operating department.	Train service	Train service.
17. Is there a periodic examination, operating department?	No	No	Yes	Triennial	Food handlers	Yes	Train service	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	Females; by company	No	Females; by company.	Females; by company. Club room for males, steward.	Yes; by company	Males; by company	Females; by company, in charge of nurse.	Reading rooms for trainmen.
19. Is vaccination against smallpox required of applicants for service?	No	No	No	No	Yes; in train service.	No	Yes	No.
20. Are employees given benefit of antityphoid immunization?	Yes	No	Yes	Yes	No	No	Yes	No.
21. What treatment for, or prevention of, venereal diseases?	None	None	None	Only Oregon Social Hygiene Society propaganda.	None	None	None	None.
22–23. Is there a sanitary inspector, medical or lay? What are his duties?	No	No	Yes; medical. Inspect camps.	Yes; lay. General inspection.	Yes; medical. Sanitary inspection.	Yes; lay. General inspection.	No	Yes; medical. General inspection and recommendation.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	No	No	No	No	Yes; in all States having such laws.	No	No	Yes; 1.
26. Compare results treatment of injured—compensation law and railroad.					No data			All cared for by railroad.
27. Is any consideration given housing employees?	No	No	No	No	No	No	Yes	No.
28. What instruction in personal hygiene?	None	None	None	Lectures given	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	None operated	None	Water certified. Employees examined every 6 months.	Inspectors. Employees examined every 3 months.	Buffet cars under commissary. Food handlers examined.	Water analyzed and tanks cleaned.	Officers in authority.	None operated.
30. What precautions against malaria?	None	None	None	None	Cars screened	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	Chief surgeon's bulletins.	Occasional lectures	Pamphlets	None	None	None.

Name of railroad	Belt R. R. of Chicago.	Chicago & Western Indiana R. R.	Chicago & Northwestern R. R.	Chicago Great Western R. R.	Chicago Junction R. R.	Chicago, Milwaukee & St. Paul R. R.	Chicago, St. Paul, Minneapolis & Omaha R. R.
1. Chief surgeon:							
(a) Appointed by	General manager	General manager	Federal manager		General manager	President (now Federal manager).	Head of legal department.
(b) Reports to	do	do	do		do	General manager	Claim agent.
2. Local surgeons:							
(a) Appointed by	Chief surgeon	Chief surgeon	Chief surgeon	Division superintendents	Have none	Chief surgeon	Do.
(b) Report to	do	do	do	do		do	Do.
3. Compensation, company surgeons—Salary, fee table, or pass only.	Salary and fee	Salary and fee	Salary and fee table	Salary, fee table, and pass only.	Salary to chief surgeon	Salary, others fee table, none by pass only.	Salary, others fees.
4. Pass privilege:							
(a) To local surgeons	Not restricted	Not restricted	Passes for self only on company's lines.	Annual system pass	None	Annual in State located, except Iowa; trip passes over system.	Annual system pass, except as restricted by State or Federal laws.
(b) Their families				Annual system pass when so provided in contract.			
5. How are injury cases cared for in absence of hospital association.	Arrangements with three hospitals.	Arrangements with hospital.	Use hospitals over system, railroad pays all expenses.	Contracts with hospitals at principal points.	Arrangements with hospitals.	Western Lines, hospital association; Eastern Lines, arrangements with hospitals.	Certain hospitals are used by railroad.
6. Number of employees permanently totally disabled during 1918.	None	None	5	2	1	None	None.
7. Number employees permanently partially disabled during 1918.	2	5	96	30	5	45	14.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation.	100 per cent	80 per cent	100 per cent	100 per cent	100 per cent	88 per cent	100 per cent.
9. What percentage of permanently partially disabled were able to resume original occupation.	50 per cent	60 per cent	71 per cent	87 per cent	None	28 per cent	93 per cent.
10. (a) Who makes physical examination of applicants for service?	Chief surgeon	Chief surgeon	Company surgeons	Local surgeons	Chief surgeon	Local surgeons	Company surgeons.
(b) Who approves applications from a medical standpoint?			Chief surgeon			Chief surgeon	Chief surgeon.
11. Are applicants requiring examination on colors, hearing, and vision examined by layman or doctor?	Doctor	Doctor	Doctor	Laymen	Doctor	Doctor	Laymen
12. Are laymen considered competent to conduct examinations of employees on colors, hearing, and vision?	No	No	Yes	Yes	No	No	Yes.
13. Has the claims department any authority over surgical department?	No	No	No	No	Yes; claims department authorizes expense incurred.	No	Complete.
14. Who is responsible for—							
(a) Sanitation of the railroad	Department heads	Department heads	Sanitary inspector	Division superintendents	Chief engineer	Operating and surgical departments.	Station agents and department heads.
(b) Health of the employees	do	do	No one	Superintendents and department heads.	General manager	Operating department	No provision.
(c) Who initiates the action	do	do	do	do	do	Operating and surgical department officials through general manager.	General manager.

QUESTIONNAIRE 2.—NORTHWESTERN REGION—Continued.

Name of railroad	Duluth & Iron Range R. R.	Duluth, Missabe & Northern R. R.	Duluth, South Shore & Atlantic R. R.	Elgin, Joliet & Eastern R. R.	Great Northern R. R.	Indiana Harbor Belt R. R.	Minneapolis & St. Louis R. R.
1. Chief surgeon:							
(a) Appointed by	Federal manager	Federal manager and employees' committee.		General manager	General solicitor	General manager	
(b) Reports to	do	do		do	Claim agent	do	
2. Local surgeons:							
(a) Appointed by	Chief surgeon	Chief surgeon	General superintendent	Chief surgeon	do	Claim agent	Claim agent.
(b) Report to	do	do	do	do	do	do	Do.
3. Compensation, company surgeons—Salary, fee table, or pass only.	Fee table	Fee table	Fee table	Salary and fee tables	Salary, others fees	Salary, others fees	Fee table.
4. Pass privilege:							
(a) To local surgeons	Annual system pass	Annual system pass	Annual pass in State located.	None	Fee surgeons, system pass for self; salaried surgeons receive transportation as employee.	None; no passenger trains.	System pass (not good in Iowa).
(b) Their families							
5. How are injury cases cared for in absence of hospital association?	Chief surgeon's hospital	Chief surgeon's hospital	Pay regular hospital charges.	Two railroad hospitals; at other hospitals railroad surgeons give treatment.	Arrangements with local hospitals.	Arrangements with hospitals; company surgeons are used.	Arrangements with hospitals as to rates.
6. Number of employees permanently totally disabled during 1918.	None	None	1	1	2	None	None.
7. Number employees permanently partially disabled during 1918.	2	6	4	11	70	None	14.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	100 per cent	100 per cent	100 per cent	100 per cent	100 per cent		50 per cent.
9. What percentage of permanently partially disabled were able to resume original occupation?			100 per cent	50 per cent	73 per cent		57 per cent.
10. (a) Who makes physical examination of applicants for service?	Chief surgeons	None made	Company surgeons	No general physical examinations.	Local surgeons	Company surgeons	Local surgeons.
(b) Who approves applications from a medical standpoint?	Trainmaster and superintendent motive power.		General superintendent		Chief surgeon	Chief surgeon	
11. Are applicants requiring examination on colors, hearing, and vision examined by laymen or doctor?	Doctor	None made	Doctor	Laymen	Doctor	Laymen	Laymen.
12. Are laymen considered competent to conduct examination of employees on vision, hearing, and colors?	No	No	Yes	Yes	Yes	Yes	Yes.
13. Has the claims department any authority over surgical department?	No	No	No	No	Yes	Yes	Yes.
14. Who is responsible for—							
(a) Sanitation of the railroad	Chief engineer, superintendent, and superintendent motive power.	Chief engineer, superintendent, and superintendent motive power.	Transportation and car department.	Surgical department	General manager and chief surgeon.	Department heads	Department heads.
(b) Health of employees	Department heads	Department heads	Department heads	do	do	do	Do.
(c) Who initiates the action?	do	do	do	Officials	General manager	General manager	Do.

Name of railroad	Minneapolis, St. Paul & Sault Ste. Marie R. R.	Minnesota & International R. R.	Minnesota Transfer R. R.	Northern Pacific R. R.	Oregon-Washington Railroad & Navigation Lines.	Pullman Car Lines.	Spokane, Portland & Seattle R. R.
1. Chief surgeon:							
(a) Appointed by	General solicitor	Board of managers	General superintendent	Board of managers	Federal manager	President (Federal manager.)	Claim agent.
(b) Reports to	do	President		President of Northern Pacific Beneficial Association.	do	do	Do.
2. Local surgeons:							
(a) Appointed by	Chief surgeon with approval of general solicitor.	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon with approval of claim agent.
(b) Report to		do		do	do	do	Do.
3. Compensation, company surgeons—Salary, fee table, or pass only.	Fee table	Salary and pass, others pass only.	Fee table	Salary and pass, others pass only.	Salary	Some salary, others fees.	Salary, others fee table, some by pass only.
4. Pass privilege:							
(a) To local surgeons	System pass	Annual system pass	None	Annual system pass	Annual pass over local lines.	None	Annual pass in district employed.
(b) Their families							
5. How are injury cases cared for in absence of hospital association?	Arrangements with hospitals.	Have hospital association.	Contract with hospital	Have hospital association.	Have hospital association.	Arrangements with hospital.	Have hospital association.
6. Number of employees permanently totally disabled during 1918.	None (16 fatalities)	1 (2 fatalities)	None	2	None	No data	None.
7. Number employees permanently partially disabled during 1918.	16	2	None	48	6	No data	1.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	100 per cent	100 per cent		100 per cent	100 per cent		100 per cent.
9. What percentage of permanently partially disabled were able to resume original occupation?	56 per cent	100 per cent		75 per cent	83 per cent		100 per cent.
10. (a) Who makes physical examination of applicants for service?	Examining surgeons	Local surgeon	No physical examination	Local surgeon	Company surgeon	Physician (physical examination not general).	Company surgeons.
(b) Who approves applications from a medical standpoint?	Chief surgeon	Chief surgeon		Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon.
11. Are applicants requiring examination on colors, vision, and hearing examined by layman or doctor?	Doctor	Doctor	No such examination	Doctor and layman	Doctor	Doctor (few so examined)	Doctor.
12. Are laymen considered competent to conduct examinations of employees on vision, hearing, and colors?	No	Doctor preferred		Yes	No	Laymen might be trained.	No.
13. Has the claims department any authority over surgical department?	Both under general solicitor.	No	Yes; complete	No	No	No	Yes.
14. Who is responsible for—							
(a) Sanitation of the railroad	Chief surgeon	Surgical department	Special agent	Surgical department	Operating department	Officials and chief surgeon.	Chief surgeon.
(b) Health of employees	do		No provision		do	No provision	Do.
(c) Who initiates the action?	do		Special agent		do		Anyone may report conditions.

QUESTIONNAIRE 1.—CENTRAL WESTERN REGION.

1-2. Name of railroad. Location of general office.	Arizona Eastern R. R., Phoenix, Ariz.	Atchison, Topeka & Santa Fe R. R., Amarillo, Tex.	Chicago & Alton R. R., Chicago, Ill.	Chicago & Eastern Illinois R. R., Chicago, Ill.	Chicago, Burlington & Quincy R. R., Chicago, Ill.	Chicago, Peoria & St. Louis R. R., Chicago, Ill.	Chicago, Rock Island & Gulf R. R., Fort Worth, Tex.
3. Number of employees:							
Male	1,145	55,058	8,120	9,144	48,701	800	1,603.
Female	86	2,787	275	421	3,349	57	60.
4-5. Is there a medical organization? Nature of same.	Hospital association	Hospital association	No	Surgical staff	Surgical staff	Surgical staff	Surgical staff.
6. Name and address of chief surgeon.	Dr. Win Wylie, Phoenix, Ariz.	Dr. J. P. Kaster, Topeka, Kans.; Dr. N. H. Morrison, Los Angeles, Calif.		Dr. W. H. Bohart, Chicago, Ill.	Dr. J. A. Denny, Chicago, Ill.	Dr. W. A. Young, Springfield, Ill.	Dr. W. A. Duringer, Fort Worth, Tex.
7. How many company surgeons?	31	348	72	104	394	16	26.
8-9. Is there a relief department? Nature of same.	No	No	No	Mutual benefit association.	Mutual benefit association.	No	No.
10. Is there a pension fund? Give regulations.	No	Yes; rules attached	No	No	No	No	Yes; rules attached.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? If so, by whom and scope of work?	By chief surgeon	By company surgeons	By company surgeon	By company surgeons	By company surgeons	By company surgeon	By company surgeons.
13. How much has safety first movement influenced injuries?	Material reduction	Beneficial results	No data	Excellent results	Material decrease	Some improvement	Material decrease.
14. Are applicants required to undergo physical examination? In what departments?	Train service	All except laborers	Operating department	Train service on 1 division; others, vision and hearing.	All except laborers	Operating department	Operating department.
15. Is there an age limit? Give maximum and minimum for various classes.	No	Train service, 21-35 inexperienced; 21-45 experienced; 58 maximum for shopmen; clerks in auditor's office, 16-30.	35 maximum inexperienced; 45 maximum experienced in operating department.	21-35 train service; telegraph and maintenance of way, minimum 18.	Minimum, 18 and 20; maximum, 45 and 50.	45 maximum operating department.	35 maximum inexperienced; 45 maximum experienced.
16. Is examination for promotion required? In what departments?	No	Train service	Operating department	Train service on 1 division; vision, hearing, all divisions.	Train service and to any position requiring higher standards of vision, etc.	Operating department	No.
17. Is there a periodic examination in operating department?	No	Triennial; some, yearly vision, hearing.	Yes	No	Yes	Yes	Triennial.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	No	Females, by company	Yes	Females, by company; matron.	Yes, by company	Yes	Males, by company.
19. Is vaccination against smallpox required of applicants for service?	No	Yes	No	Those physically examined.	No	No	No.
20. Are employees given benefit antityphoid immunization?	No	No	No	No	Yes	No	Yes.
21. What treatment for or prevention of venereal diseases?	None	None	None	None	Advice by medical examiners.	None	Subject to dismissal.
22-23. Is there a sanitary inspector, medical or lay? What are his duties?	No	Yes, medical; annual inspection.	Yes, lay; general inspection and report.	No	Yes, medical; inspect trains, shops, etc.	Yes, lay; general inspection.	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	No	Yes	Yes	Yes	Yes	Yes	No.
25. Are you working under State compensation laws? In how many States?	Yes, 1	Yes, 1	Yes, 1	Yes, 1	Yes, 4	Yes, 1	No.
26. Compare results treatment of injured, compensation law and railroad.	Better under railroad surgical organization.	No data	Same	All cared for by railroad surgeons.	All cared for by railroad surgeons.	Same	
27. Is any consideration given housing of employees?	Yes	Yes	No	No	Yes	No	Yes.
28. What instruction in personal hygiene?	None	None	None	Bulletins issued by chief surgeon.	Advice by medical examiners.	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	Inspection by general officer.	Under contract system	None	Dining car superintendent.	Inspectors; employees examined every 3 months.	None operated	Dining car inspectors; restaurants contract.
30. What precautions against malaria?	None	None	None	None	Oiling	None	Drainage.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	None	Lectures and bulletins	None	None	Y. M. C. A. lectures.

1-2. Name of railroad. Location of general office.	Chicago, Rock Island & Pacific Ry., Chicago, Ill.	Chicago, Terre Haute & Southeastern R. R., Chicago, Ill.	Colorado & Southern R. R., Denver, Colo.	Denver Union Terminal, Denver, Colo.	Denver & Rio Grande R. R., Denver, Colo.	El Paso & Southwestern R. R., El Paso, Tex.	Fort Worth & Denver City R. R., Fort Worth, Tex.
3. Number of employees:							
Male	40,707	1,721	5,231	150	11,231	4,309	2,654.
Female	2,193	61	200	15	383	93	87.
4-5. Is there a medical organization? Nature of same.	Hospital association	Surgical staff	Hospital association	No	Hospital association	Surgical staff	Hospital association.
6. Name and address of chief surgeon	Dr. S. C. Plummer, Chicago, Ill.	Dr. J. T Freeland, Bedford, Ind.	Dr. F. H. McNaught, Denver, Colo.	Dr. H. L. Taylor, Denver, Colo.	Dr. J. W. O'Connor, Denver, Colo.	Dr. F. E. Shine, Bisbee, Ariz.	Dr. Bacon Saunders, Fort Worth, Tex.
7. How many company surgeons?	466	28	65	1	123	50	73.
8-9. Is there a relief department? Nature of same.	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations.	Yes; rules attached	No	No	No	Yes; rules attached	Yes; rules attached	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? By whom and scope work.	By company surgeons	No	No	No	By company surgeons at division terminals.	By company surgeon	By company surgeons at division terminals.
13 How much has safety-first movement influenced injuries?	Substantial reducation, 1918-1917.	No data	No data	No data	Decrease	Decrease	35 to 40 per cent.
14. Are applicants required to undergo physical examination? In what departments.	Operating department	No	Operating and mechanical departments.	No	All except laborers	Operating and mechanical departments.	Operating and mechanical departments.
15. Is there an age limit? Give maximum and minimum for various classes.	35 maximum inexperienced, 45 maximum experienced.	18-31 train service	21-40 all departments	No	35 maximum inexperienced, 45 maximum experienced.	35 maximum inexperienced, 50 maximum experienced.	No.
16 Is examination for promotion required? What departments?	No	No	Operating department	No	Train service	Operating department	No.
17. Is there a periodic examination in operating department?	Triennial	No	No	No	No	No	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for.	Yes; by company	Females; by company	No	No	No	No	No.
19. Is vaccination against smallpox required of applicants for service?	No	No	Yes	No	No	Yes	Yes.
20. Are employees given benefit of antityphoid immunization?	Yes	No	Yes	No	No	Yes	No.
21. What treatment for, or prevention of, venereal diseases?	Subject to dismissal	None	None	None	None	None	None.
22-23. Is there a sanitary inspector. medical or lay? What are his duties?	No	No	No	No	Yes; medical. Monthly inspection.	Yes; both. All property.	Yes; lay. Inspect cars, buildings, stations.
24. Do you have sanitary inspection of cars, buildings, etc.?	No	Yes	No	No	Yes	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	Yes; 5	Yes; 2	No	No	No	Yes; 1	No.
26. Compare results treatment of injured, compensation law and railroad.	All cared for by railroad surgeons.	All cared for by railroad surgeons.				Better under railroad surgeons.	
27. Is any consideration given housing employees?	Yes; agents and foremen.	No	No	No	No	Yes	Yes.
28. What instruction in personal hygiene?	None	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	Dining-car inspectors; restaurants contract.	Restaurants by superintendent; no dining cars.	Dining-car superintendent.	Restaurant manager	Two traveling inspectors and dining-car superintendent.	None	None.
30. What precautions against malaria?	Drainage	None	None	None	None	None	Federal and State laws only.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	Y. M. C. A. lectures	None	None	None	None	None	Instruction by chief and division surgeons.

QUESTIONNAIRE 1.—CENTRAL WESTERN REGION—Continued.

1-2. Name of railroad. Location of general office.	Illinois Terminal, Alton, Ill.	Kansas City Terminal, Kansas City, Mo.	Los Angeles & Salt Lake R. R., Los Angeles, Calif.	Northwestern Pacific R. R., San Francisco, Calif.	Ogden Union Ry. & Depot, Salt Lake City, Utah.	Oregon Short Line R. R. Salt Lake City, Utah.	Peoria & Pekin Union R. R., Chicago, Ill.
3. Number of employees:							
Male	239	2,836	4,299	1,823	675	9,079	1,468.
Female	14	181	186	87	22	678	93.
4-5. Is there a medical organization? Nature of same.	No	Surgical staff	Hospital association	Hospital association	Hospital association	Hospital association	Surgical staff.
6. Name and address of chief surgeon	Dr. H. W. Lemen, Alton, Ill.	Dr. M. W. Pickard, Kansas City, Mo.	Dr. Guy Cochran, Los Angeles.	Dr. A. M. Taylor, San Francisco, Calif.	Dr. S. H. Pinkerton, Salt Lake City, Utah.	Dr. S. H. Pinkerton, Salt Lake City, Utah.	Dr. J. R. Vonachen, Peoria, Ill.
7. How many company surgeons?	1	4	45	42	2	71	3.
8-9. Is there a relief department? Nature of same.	No	No	No	No	No	Benefit association	No.
10. Is there a pension fund? Give regulations.	No	No	No	Yes, rules attached	Yes, rules attached	Yes, rules attached	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? By whom and scope of work?	No	By chief surgeon	By company surgeons	By company surgeons	No	By company surgeons	By company surgeons.
13. How much has safety-first movement influenced injuries?	No data	Material decrease	50 per cent	No reduction	50 per cent	Fatalities decreased 78 per cent, injuries 50 per cent, in 4 years.	No data.
14. Are applicants required to undergo physical examination? In what departments?	Train service	Operating department	All, except laborers	All	All, except laborers	All	Operating department.
15. Is there an age limit? Give maximum and minimum for various classes.	No	21-55, all departments	No	35 maximum inexperienced, 45 maximum experienced.	Yes	35 maximum inexperienced, 45 maximum experienced.	26-45; all departments.
16. Is examination for promotion required? In what departments?	No	Mechanical department	Operating department	Train service. Station service.	Enginemen	Train service	Train service.
17. Is there a periodic examination in operating department?	No	Yes	Biennial	On vision and hearing	No	Biennial, on vision and hearing in train service.	Yes.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	No	No	No	No	No	No	Yes.
19. Is vaccination against smallpox required of applicants for service?	No	No	Yes	No	No	Yes	No.
20. Are employees given benefit of anti-typhoid immunization?	No	No	Yes	No	No	No	No.
21. What treatment for, or prevention of, venereal diseases?	None	Laid off	None	None	None	None	None.
22-23. Is there a sanitary inspector; medical or lay? What are his duties?	No	Yes, both. Periodic inspection.	Yes, medical. Inspects all property. Monthly report.	Yes, medical. General inspection.	No	Yes, lay. Inspection and report.	Yes; lay. Inspection and report.
24. Do you have sanitary inspection of cars, buildings, etc.?	No	Yes	Yes	Yes	No	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	Yes, 1	No	Yes, 1	Yes, 1	No	Yes, 1	Yes, 1.
26. Compare results of treatment of injured—compensation law and railroad.	No data		All cared for by railroad organization.	No data		All cared for by railroad hospital department.	Same.
27. Is any consideration given housing of employees?	No	Yes	Yes	No	No	No	No.
28. What instruction in personal hygiene?	None	None	Lectures	Lectures by surgeons	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	None operated	None operated	Railroad chemist certifies water.	None	None operated	Periodic inspections by sanitary inspector.	None operated.
30. What precautions against malaria?	None	None	None	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc?	None	None	Lectures by surgeons	Lectures by hospital department surgeons.	None	None	None.

1-2. Name of railroad. Location of general office.	Rio Grande Southern R. R., Denver, Colo.	St. Joseph & Grand Island R. R., St. Joseph, Mo.	Southern Pacific R. R., San Francisco, Calif.	Toledo, Peoria & Western R. R., Peoria, Ill.	Union Pacific R. R., Omaha, Nebr.	Wabash R.R., St.Louis, Mo.	Western Pacific R. R., San Francisco, Calif.
3. Number of employees:							
Male	242	1,385	54,078	665	29,350	15,247	3,410.
Female	5	11		28	1,765	800	
4-5. Is there a medical organization? Nature of same.	Hospital association	Hospital association	Hospital association	Surgical staff	Hospital association	Hospital association	No.
6. Name and address of chief surgeon.	Dr. J. W. O'Connor, Denver, Colo.	Dr. A. F. Jonas, Omaha, Nebr.	Dr. F. K. Ainsworth, San Francisco, Calif.	Dr. R. A. Hanna, Peoria, Ill.	Dr. A. F. Jonas, Omaha, Nebr.	Dr. M. P. Parrish, Decatur, Ill.	Dr. T. W. Huntington, San Francisco, Calif.
7. How many company surgeons?	8	21	415	14	218	125	29.
8-9. Is there a relief department? Nature of same.	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations.	No	No	Yes, rules attached	Yes	Yes, rules attached	No	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? By whom and scope of work?	By company surgeons at division terminals.	No	No	By company suregons to operating department.	No	By company surgeons at safety meetings.	No.
13. How much has safety-first movement influenced injuries?	Decrease	50 per cent	No data	Very materially	25 per cent	Some reduction	No data.
14. Are applicants required to undergo physical examination? In what departments?	All, except section laborers.	Operating and mechanical departments.	All, except in maintenance of way and laborers.	Operating and mechanical departments.	Operating and mechanical departments.	Train service	Operating, mechanical, and clerical departments.
15. Is there an age limit? Give maximum and minimum for various classes.	35 maximum inexperienced, 45 maximum experienced.	21-60 all departments	35 maximum inexperienced, 45 maximum experienced.	No	21-55 train service, 16-55 offices.	No	No.
16. Is examination for promotion required? In what departments?	Train service	Operating department, also bridge and building and maintenance of way.	Some in train service and mechanical department. Section laborers to foreman.	Operating department	Train service	Train service	No.
17. Is there a periodic examination in operating department?	No	No	Triennial	No	Triennial	Yes	In train service every 4 years.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	No	No	No	No	Females, by company, at general office only.	Yes, by company	No.
19. Is vaccination against smallpox required of applicants for service?	No	No	Yes	No	Yes	No	No.
20. Are employees given benefit of antityphoid immunization.	No	No	Yes	No	No	No	No.
21. What treatment for or prevention of venereal diseases?	None	None	None	None	None	None	None.
22-23. Is there a sanitary inspector, medical or lay? What are his duties?	Yes; medical; monthly inspection and report.	No	Yes; medical; inspection and report.	No	Yes; lay; inspects all property.	No	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	Yes	Yes	Yes	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	No	No	No	Yes; 1	No	Yes; 5	No.
26. Compare results of treatment of injured—compensation law and railroad.				Favorably		Cared for by railroad hospital.	
27. Is any consideration given housing of employees?	No	No	Yes	Yes	Yes; maintenance of way.	No	Yes; agents and section men.
28. What instruction is given in personal hygiene?	None	None	None	None	None	Lectures	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	None operated	None operated	By those in charge	None operated	Daily inspection by stewards and managers; employees examined periodically.	None	By those in charge.
30. What precautions taken against malaria?	None	None	Usual precautions where it appears.	None	None	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	Public health pamphlets posted.	None	Pamphlets	Public health pamphlets posted.	None	None.

QUESTIONNAIRE 2.—CENTRAL WESTERN REGION.

Name of railroad	Arizona Eastern R. R.	Atchison, Topeka & Santa Fe R. R.	Chicago & Alton R. R.	Chicago, Peoria & St. Louis R. R.	Chicago & Eastern Illinois R. R.	Chicago, Terre Haute & Southeastern R. R.	Chicago, Burlington & Quincy R. R.
1. Chief surgeon:							
(a) Appointed by	General manager	Railroad general manager; board of trustees hospital association.	Claim agent		General manager	General superintendent	Federal manager.
(b) Reports to	do	Railroad general manager; chairman hospital association.	do		do	do	Superintendent relief department.
2. Local surgeons:							
(a) Appointed by	Chief surgeon	Chief surgeon	do		Chief surgeon	Chief surgeon	Chief surgeon.
(b) Report to	do	do	do		do	do	Do.
3. Compensation, company surgeons, salary, fee table, or pass only.	Salary and pass, pass only; emergency surgeons, fee table.	Some salary, others fee table; none by pass only.	A few by salary, 3 by fee table; balance pass only.	Chief and some local surgeons by salary, others pass only.	Salary and fees	Chief surgeon, salary; others by fee table.	Fee table.
4. Pass privilege:							
(a) Local surgeons	System privilege	Annual furnished in most cases.	Local pass		Annual	Annual pass	Annual, good in State; interstate trip.
(b) Their families	do				Trip passes to some	None	None.
5. How are injury cases cared for in absence of hospital association?	Hospital association and contracts with hospitals at division points.	Hospital association	Arrangements with hospitals.		Arrangements with 14 hospitals.	Arrangements with hospitals.	Use nearest hospital.
6. Number of employees permanently totally disabled during 1918.	None	3	None	None	1	None	13.
7. Number of employees permanently partially disabled during 1918.	1	26	24	7	17	5	53.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	100 per cent	47 per cent	50 per cent	71 per cent	2 per cent	100 per cent	100 per cent.
9. What percentage of permanently partially disabled were able to resume their original occupation?	100 per cent	75 per cent	33⅓ per cent	14 per cent	13 per cent	100 per cent	49 per cent.
10. (a) Who makes physical examination of applicants for service?	Division surgeon	Local surgeon	Local surgeon	Local surgeon	District surgeon	None	Company surgeons.
(b) Who approves applications from a medical standpoint?	Chief surgeon	Chief surgeon			Chief surgeon		Chief surgeon.
11. Are applicants requiring examination on color, vision, and hearing examined by layman or doctor?	Doctor	Doctor	Doctor	Doctor	Layman; by doctor on one division.	Layman	Doctor.
12. Are laymen considered competent to conduct examinations of employees on vision, hearing, and colors?	No	No	Yes; if experienced		Yes	Yes	No.
13. Has claims department any authority over the surgical department?	No	No	Has entire jurisdiction		No	Yes	No.
14. Who is responsible for—							
(a) Sanitation of the railroad?	Operating department	Officers in charge	Officers in charge		Department heads	General superintendent	Chief surgeon.
(b) Health of employees?	Hospital department	Hospital department			do	do	Do.
(c) Who initiates the action?	do	Medical department and officers in charge.			do	do	Chief surgeon or other officers.

Name of railroad	Chicago, Rock Island & Pacific R. R.	Colorado & Southern R. R.	Denver & Rio Grande R. R.	El Paso & Southwestern R. R.	Kansas City Terminal.	Los Angeles & Salt Lake R. R.	Northwestern Pacific R. R.
1. Chief surgeon:							
(a) Appointed by	General solicitor	General manager	General manager	Federal manager	General manager	General manager	General manager.
(b) Reports to	do	do	do	do	General superintendent.	do	Do.
2. Local surgeons:							
(a) Appointed by	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	General manager	Chief surgeon	Chief surgeon.
(b) Report to	do	do	do	do	Chief surgeon	do	Do.
3. Compensation, company surgeons—salary, fee table, or pass only.	20 by salary, all others by fee table.	Salary, fee table, and pass only.	Salary	Few by salary, others by fee table.	2 by salary, others fee table.	By salary if sufficient work.	Salary, chief and division surgeons; others pass only.
4. Pass privilege:							
(a) To local surgeons	Annual in State employed, system trip.	Annual in State employed.	Annual in State employed.	System annual	Salaried surgeons annual. Trip pass to assistant surgeons.	Over local line	System annual.
(b) Their families			Trip passes in Utah				
5. How are injury cases cared for in absence of hospital association?	Contracts made with hospitals.	Hospital association	Hospital association		Arrangements with two hospitals.	Contract with hospitals	Hospital association.
6. Number of employees permanently totally disabled during 1918.	11	1	1	1	4	None	None.
7. Number of employees permanently partially disabled during 1918.	521	11	12	12	17	9	None.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	100 per cent	100 per cent	100 per cent	100 per cent	100 per cent	100 per cent	
9. What percentage of permanently partially disabled were able to resume their original occupation?	97⅓ per cent	82 per cent	66 per cent	100 per cent	100 per cent	100 per cent	
10. (a) Who makes physical examination of applicants for service?	Company surgeons	Company surgeons	Local surgeons	Division surgeon	Company surgeon	Local surgeons	Company surgeons.
(b) Who approves applications from a medical standpoint?	Chief surgeon	Chief surgeon	Chief surgeon		Chief surgeon	Chief surgeon	Chief surgeon.
11. Are applicants requiring examination on vision, hearing, and colors examined by layman or doctor?	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor.
12. Are laymen considered competent to conduct examination of employees on vision, hearing, and colors?	Yes	No	No	No	Yes	No	No.
13. Has the claims department any authority over surgical department?	No	No	No	No	No	No	No.
14. Who is responsible for—							
(a) Sanitation of the railroad?	Chief surgeon	Medical department	Chief and local surgeon	Medical department	Chief surgeon	Medical department	Medical department.
(b) Health of the employees?	do	do	do	do	do	do	Do.
(c) Who initiates the action?	do	do	Chief surgeon	do	do	Chief surgeon	Do.

QUESTIONNAIRE 2.—CENTRAL WESTERN REGION—Continued.

Name of railroad	Oregon Short Line.	Southern Pacific R. R.	St. Joseph & Grand Island R. R.	Union Pacific R. R.	Wabash R. R.	Western Pacific R. R.
1. Chief surgeon:						
(a) Appointed by	Federal manager	Federal manager	Federal manager	Federal manager	Elected	Federal manager.
(b) Reports to	General manager	do	General manager	General manager	Assistant general manager and hospital association.	Do.
2. Local surgeons:						
(a) Appointed by	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon.
(b) Report to	do	do	do	do	do	Do.
3. Compensation, company surgeons—salary, fee table, or pass only.	Salary and pass, others pass only.	81 by salary, 93 fee table, 183 by pass only.	Salary	Salary	Fee table	Salary and pass only.
4. Pass privilege:						
(a) To local surgeons	Annual for self only. Surgeons receiving not less than $100 per month, foreign passes for self and family.	Varies; one division to entire system. (If service warrants, trip for family in State.)	Annual; to those receiving not less than $100 per month, foreign transportation for themselves and families.	Annual; to those receiving not less than $100 per month, foreign for self and family.	Annual in State employed	Annual.
(b) Their families					Trip passes	Do.
5. How are injury cases cared for in absence of hospital association?	One company hospital; contract with others.	Hospital association	Contract with local hospitals at important points.	Contract with local hospitals at important points.	Hospital association	Hospital association.
6. Number of employees permanently totally disabled during 1918.	1	6	Not known	12	6	None.
7. Number of employees permanently partially disabled during 1918.	19	77	do	87	16	6.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	84 per cent	89 per cent	do	100 per cent	70 per cent	100 per cent.
9. What percentage of permanently partially disabled were able to resume their original occupation?	68 per cent	70 per cent	do	88.5 per cent	60 per cent	100 per cent.
10. (a) Who makes physical examination of applicants for service?	Company surgeons	Hospital surgeons	Local surgeons	Local surgeons	Company surgeons	Local surgeons.
(b) Who approves applications from a medical standpoint?	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon		Chief surgeon.
11. Are applicants requiring examination on vision, hearing, and colors examined by layman or doctor?	Doctor	Doctor	Doctor	Doctor	Doctor; field test by division officers.	Doctor.
12. Are laymen considered competent to conduct examination of employees on vision, hearing, and colors?	No	No	No	No	No	No.
13. Has the claims department any authority over the surgical department?	No	No	No	No	In injury cases, other than employees.	No.
14. Who is responsible for—						
(a) Sanitation of the railroad?	Chief surgeon	Hospital department	Hospital department surgeons.	Hospital department surgeons.	Chief surgeon, operating department.	Chief surgeon, with the cooperation of the various department heads.
(b) Health of the employees?	do	do	do	do	do	
(c) Who initiates the action?	do	do	Chief surgeon	Chief surgeon	do	

QUESTIONNAIRE 1.—SOUTHWESTERN REGION.

1-2. Name of railroad. Location of general office.	Fort Worth Belt R. R., Galveston, Tex.	Fort Worth & Rio Grande R. R., Fort Worth, Tex.	Galveston Terminals, Houston, Tex.	Gulf, Colorado & Santa Fe R. R., Galveston, Texas.	Gulf Coast Lines, Houston, Tex.	Houston & Texas Central R. R., Houston, Tex.	Houston East & West Texas R. R., Kansas City, Mo.	International & Great Northern, Houston, Tex.
3. Number of employees:								
Male	149	403	988	7,393	2,860	2,649	716	984.
Female	1	7	30	160	274	28	20	13.
4-5. Is there a medical organization? Nature of same?	No	Hospital association	Hospital association	Hospital association	Surgical staff; hospital association on Texas lines.	Hospital association	Hospital association	Hospital association.
6. Name and address of chief surgeon?	Dr. H. V. Johnson, Fort Worth, Tex.	Dr. G. W. Cale, jr., St. Louis, Mo.	Dr. R. W. Knox, Houston, Tex.	Dr. A. C. Scott, Temple, Tex.	Dr. B. Thorning, Houston, Tex.	Dr. R. W. Knox, Honston, Tex.	Dr. R. W. Knox, Houston, Tex.	Dr. E. B. Parsons, Palestine, Tex.
7. How many company surgeons?	1	43	2	200	67	99	33	140.
8-9. Is there a relief department? Nature of same?	No	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations.	No	Yes; rules attached	No	Yes	No	Yes	Yes; rules attached	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No	No.
12. Do you instruct in first aid? By whom and scope of work?	No	No	By chief surgeon and assistants.	By company surgeons at shops and roundhouses.	No	By chief surgeon and assistants.	No	No.
13. How much has safety-first movement influenced injuries?	50 per cent	25 per cent	Considerable reduction.	50 per cent	No data	35 per cent to 40 per cent.	Some reduction	25 per cent.
14. Are applicants required to undergo physical examination? In what departments?	All employees	Operating and mechanical departments.	Train service	Operating and mechanical departments.	Operating and mechanical departments.	All, except section men.	Operating and mechanical departments.	Foremen and above in maintenance of way.
15. Is there an age limit? Give maximum and minimum for various classes.	45 maximum; train service.	No	No	45 maximum engineers and conductors, 35 maximum experienced firemen-trainmen, 28 maximum inexperienced firemen-trainmen and switchmen.	21-45, all departments.	No	21-45	No.
16. Is examination for promotion required? In what departments?	Enginemen	Train service	No	No	No	No	Train service. Laborers to foremen.	No.
17. Is there a periodic examination in operating department?	Yes	No	No	Train service every 3 years on vision, hearing, and colors.	No	Triennial	Yes	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	No	No	Trainmen, by company.	No	No	Females, by company.	Yes	No.
19. Is vaccination against smallpox required of applicants for service?	No	Yes	Yes	No	No	Yes	No	No.
20. Are employees given benefit antityphoid immunization?	No	Yes	No	Yes	No	No	No	No.
21. What treatment for, or prevention of, venereal diseases?	None	None	None	Hospital association does not treat. Combated by R. R. Y. M. C. A.'s.	None	None	None	None.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	No	No	No	No	No	Yes, lay. Inspects all cars, buildings, etc.	No	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	No	Yes	Yes	No	Yes	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	No	No	No	No	No	No	No	No.
26. Compare results treatment of injured—compensation laws and railroad.								
27. Is any consideration given housing of employees?	No	Yes	To some extent	Yes, for some foremen and agents.	No	Yes	No	No.
28. What instruction in personal hygiene?	None	None	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	None operated	None	None operated	None operated	None operated	None	None	None.
30. What precautions against malaria?	None	None	None	State laws only	Screening; drainage	Federal and State laws only.	None	None.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	None	None	None	None	None	None.

QUESTIONNAIRE 1.—SOUTHWESTERN REGION—Continued.

1–2. Name of railroad. Location of general office.	Kansas City, Mexico & Orient R. R., Wichita, Kans.	Kansas City Southern R. R., Kansas City, Mo.	Louisiana & Arkansas R. R., St. Louis, Mo.	Midland Valley R. R., Kansas City, Mo.	Missouri & North Arkansas R. R., Kansas City, Mo.	Missouri, Kansas & Texas, St. Louis, Mo.	Missouri, Kansas & & Texas R. R. of Texas, Dallas, Tex.	Missouri, Oklahoma & Gulf R. R., Muskogee, Okla.
3. Number of employees:								
Male	1,300	5,875	755	1,215	1,196	11,398	9,122	927.
Female	200	265	9	69	23	803	70	38.
4–5. Is there a medical organization? Nature of same.	No	Hospital association	Surgical staff	Hospital association	No	Hospital association	Employees association.	Surgical staff.
6. Name and address of chief surgeon.	Dr. H. W. Horn, Wichita, Kans.	Dr. Samuel Ayers, Kansas City, Mo.	Dr. J. R. Dale, Texarkana, Ark.	Dr. Sessler Hoss, Muskogee, Okla.		Dr. E. F. Yancey, Sedalia, Mo.	Dr. S. Webb, Dallas, Tex.	Dr. W. T. Tilly, Muskogee, Okla.
7. How many company surgeons?	22	143	16	34	48	126	300	35.
8–9. Is there a relief department? Nature of same.	No	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations.	No	No	No	No	No	Yes	No	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No	No.
12. Do you instruct in first aid? By whom and scope of work.	No	No	No	No	No	By Red Cross	No	By chief surgeon at shops.
13. How much has safety-first movement influenced number of personal injuries?	No data	15 per cent	No data	Beneficial results	Perceptible reduction	Material results	35 to 40 per cent	20 per cent.
14. Are applicants required to undergo physical examination? In what departments?	Train and mechanical service.	Operating department.	No	Train service	Train service	No	Operating and mechanical departments.	Train service.
15. Is there an age limit? Give maximum and minimum for various classes.	21–45 train service	16–21 apprentices	21 minimum train and yard service.	No	18–45 operating department; 16 minimum apprentices.	Yes	No	No.
16. Is examination for promotion required? What departments?	Trainmen	Train service	No	Maintenance of way	Train service	Train service	Yes	No.
17. Is there a periodic examination in operating department?	No	No	No	No	No	No	No	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for.		Females at general offices only; by company.	No	No	No	No	No	No.
19. Is smallpox vaccination required applicants for service?	No	No	No	No	No	No	Yes	No.
20. Are employees given benefit antityphoid immunization?	No	No	No	No	No	No	Yes	No.
21. What treatment for or prevention of venereal diseases?	None	None	None	None	None	None	None	None.
22–23. Is there a sanitary inspector? Medical or lay? What are his duties?	No	No	No	No	No	No	Yes; lay. Inspects all cars, buildings, stations.	No.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	Yes; 1	Yes; 1	No	No	No	No	No	No.
26. Compare results treatment of injured—compensation law and railroad.	Very similar	All cared for by hospital association.						
27. Is any consideration given housing of employees?	Yes	Yes; foremen and section gangs.	No	Yes; agents and foremen.	No	Yes	Yes	Yes.
28. What instruction given in personal hygiene?	None	None	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	None operated	None operated	None operated	None. No diners	None operated	None	None	None
30. What precaution taken against malaria?	None.	Drainage; screening	None	Screening	Drainage	None	Federal and State laws only.	None
31. What educational measures to safeguard health by means of pamphlets, lectures, etc.?	None	None	None	None	None	By Red Cross representatives.	None	None.

1-2. Name of railroad. Location of general office.	Missouri Pacific R. R., St. Louis, Mo.	San Antonio & Aransas Pass R. R., San Antonio, Tex.	St. Louis & San Francisco R. R., St. Louis, Mo.	St. Louis, San Francisco & Texas R. R., Fort Worth, Tex.	San Antonio, Uvalde & Gulf R. R., San Antonio, Tex.	St. Louis Southwestern R. R., St. Louis, Mo.	St. Louis Southwestern Ry. of Texas, Tyler, Tex.
3. Number of employees:							
Male	33,935	2,279	25,563	481	368	6,882	3,166.
Female	1,585	121	1,253	5	15	118	61.
4-5. Is there a medical organization? Nature of same.	Hospital association	Surgical staff; hospital association.	Hospital association	Hospital association	Surgical staff	Hospital association	Hospital association.
6. Name and address of chief surgeon.	Dr. P. F. Vasterling, St. Louis, Mo.	Dr. J. H. Ruess, Cuero, Tex.	Dr. G. W. Cale, jr., St. Louis, Mo.	Dr. G. W. Cale, jr., St. Louis, Mo.	Dr. S. P. Cunningham, San Antonio, Tex.	Dr. A. E. Chace, Texarkana, Ark.	Drs. Collom and Kittrell, Texarkana, Ark.
7. How many company surgeons?	430	150	293	43	14	51	44.
8-9. Is there a relief department? Nature of same.	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations.	Yes; rules attached	Yes; rules attached	Yes; rules attached	Yes; rules attached	No	No	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? By whom and scope of work?	No	No	No	No	No	No	By Red Cross.
13. How much has safety-first movement influenced injuries?	25 per cent	Favorable results	25 per cent	25 per cent	Decrease	No data	No data.
14. Are applicants required to undergo physical examination? In what departments?	Train and yard service	Operating department	Operating department	Operating and mechanical departments.	Operating department	Train service and switchmen.	Train and yard service.
15. Is there an age limit? Give maximum and minimum for various classes.	21-45, inexperienced in train and yard service.	Train and yard men, 21-45.	18-45, train service	No	21, minimum, train and yard men.	21, minimum, train and yard men.	21, minimum, train and yard service.
16. Is examination for promotion required? What departments?	Firemen	Operating department	Train service	Train service	Operating department	Train service	Operating department.
17. Is there a periodic examination in operating department?	No	No	No	No	No	No	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	No	No	Females, by company	No	No	No	No.
19. Is vaccination against smallpox required of applicants for service?	Train and yard service	No	Yes	Yes	No	No	No.
20. Are employees given benefit of antityphoid immunization?	Yes	No	Yes	Yes	No	Yes	No.
21. What treatment for or prevention of venereal diseases?	None	None	None	None	None	Free treatment at hospital.	Treat at company hospital.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	No	No	No	No	No	No	Yes. Lay. Malaria prevention chiefly.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	No	No	Yes	No	Yes.
25. Are you working under State compensation laws? Number of States.	Yes; 2	No	No	No	No	No	No.
26. Compare results, treatment of injured—compensation law and railroad.	All cared for by hospital association.						
27. Is any consideration given housing of employees?	No	Track and bridge men	Yes	Yes	No	Yes; section houses	Yes; maintenance of way.
28. What instruction given in personal hygiene?	None	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	None	Periodic inspection	None	None	None	Superintendent dining cars and inspectors.	Superintendent dining cars.
30. What precautions against malaria?	Drainage; screening	Screening	None	None	Screening	None	Active field work by sanitary inspector.
31. What educational measures to safeguard health by pamphlets, lectures, etc.?	None	None	None	None	None	None	Pamphlets, etc., circulated by sanitary department.

QUESTIONNAIRE 1.—SOUTHWESTERN REGION—Continued.

1-2. Name of railroad. Location of general office.	Southern Pacific Lines (Texas & La.), Houston, Tex.	Terminal R. R. Assn. of St. Louis, St. Louis, Mo.	Trans-Mississippi Terminal, New Orleans, La.	Texas & Pacific R. R., Dallas, Tex.	Vicksburg, Shreveport & Pacific R. R., Kansas City, Mo.	Wichita Falls & Northwestern, R.R., Wichita Falls, Tex.	Wichita Valley R. R., Fort Worth, Tex.
3. Number of employees:							
Male	15,095	6,320	1,201	10,277	1,164	784	331.
Female	545	200	24	312	16	23	13.
4-5. Is there a medical organization? Nature of same.	Hospital association	Hospital association	Hospital association	Hospital association	Surgical staff	Hospital association	Hospital association.
6. Name and address of chief surgeon?	Dr. R. W. Knox, Houston, Tex.	Dr. W. A. McCandless, St. Louis, Mo.	Dr. J. A. Moore, Marshall, Tex.	Dr. J. A. Moore, Marshall, Tex.	Dr. J. C. Willis, Shreveport, La.	Dr. R. C. Smith, Wichita Falls, Tex.	Dr. Bacon Saunders, Fort Worth, Tex.
7. How many company surgeons?	190	12	3	102	8		73.
8-9. Is there a relief department? Nature of same.	No	No	No	No	No	No	No.
10. Is there a pension fund? Give regulations?	Yes, rules attached	No	No	No	No	No	No.
11. Is there a reconstruction department for education of injured employees?	No	No	No	No	No	No	No.
12. Do you instruct in first aid? By whom and scope of work?	By company surgeons	No	By company surgeons	By company surgeons	No	No	By company surgeons at division points.
13. How much has safety first movement influenced injuries?	No data	No data	No data	Good results	No data	35 to 40 per cent	35 to 40 per cent.
14. Are applicants required to undergo physical examination? In what departments?	Operating department	Enginemen	Train service	Train service	No	Operating and mechanical departments.	Operating and mechanical departments.
15. Is there an age limit? Give maximum and minimum for various classes.	35 maximum inexperienced, 45 maximum experienced.	21-44 enginemen; 18 minimum switchmen.	No	No	16 and 21 minimum, no maximum.	No	No.
16. Is examination for promotion required? What departments?	No	No	No	Train and yard service	Train service	No	No.
17. Is there a periodic examination in operating department?	Triennial	No	No	No	Flagmen semi-annually	No	No.
18. Are rest rooms provided for male and female employees? How furnished and cared for?	Females, by company, at general offices only.	Yes, by company	No	Females, by company, at general office.	No	No	No.
19. Is vaccination against smallpox required of applicants for service?	Yes	No	No	No	No	Yes	Yes.
20. Are employes given benefit of antityphoid immunization?	No	No	Yes	Yes	No	Yes	No.
21. What treatment for, or prevention of, venereal diseases?	None	None	None	None	None	None	None.
22-23. Is there a sanitary inspector? Medical or lay? What are his duties?	No	No	No	No	No	Yes, lay. Inspects all cars, buildings, stations.	Yes, lay. Inspects all cars, buildings, stations.
24. Do you have sanitary inspection of cars, buildings, etc.?	Yes	Yes	No	No	Yes	Yes	Yes.
25. Are you working under State compensation laws? In how many States?	Yes, 1	No	No	No	No	No	No.
26. Compare results treatment of injured—compensation law and railroad.	All cared for by railroad surgeons.						
27. Is any consideration given housing of employes?	Yes	No	No	Yes	Yes, section houses	Yes	Yes.
28. What instruction given in personal hygiene?	None	None	None	None	None	None	None.
29. What supervision exercised over food and drink in restaurants and dining cars?	Traveling inspectors, superintendent dining cars.	None operated	None	Superintendent dining service.	None	None	None.
30. What precautions taken against malaria?	Drainage	None	Screening	None	None	Federal and State laws only.	Federal and State laws only.
31. What educational measures to safeguard health by means of pamphlets, lectures, etc?	None	None	None	None	None	None	Instruction by chief and division surgeons.

Name of railroad	Galveston Terminals.	Gulf, Colorado & Santa Fe R. R.	International & Great Northern R. R.	Kansas City, Mexico & Orient R. R.	Kansas City Southern R. R.	Midland Valley R. R.	Missouri & North Arkansas R. R.
1. Chief surgeon:							
(a) Appointed by		President	Board of trustees, hospital association.	General manager	Board of trustees, hospital association.	General manager	
(b) Reports to		Board of trustees	do	do	do	Superintendent	
2. Local surgeons:							
(a) Appointed by	Federal manager	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Claim agent.
(b) Report to	Superintendent	do	do	do	do	do	Do.
3. Compensation—company surgeons—salary, fee table, or pass only.	Salary	Salary, fee table, and pass only.	Fees	Fees	Salary, others pass only.	Fees	Four paid nominal salary, three by contract at 50 per cent regular charges, 35 by pass only.
4. Pass privilege:							
(a) To local surgeons	Same as other employes.	Annual pass	Annual pass	System passes	Annual system pass	System pass	System pass.
(b) Their families		Trip passes	Trip passes				
5. How are injury cases cared for in absence of hospital association?	Sent to local hospital	Have hospital association.	Have hospital association.	Arrangements with hospitals.	Hospital association and by arrangements.	Hospital association	Use certain hospitals at regular rates.
6. Number of employees permanently totally disabled during 1918.	None	None	None	None (4 fatalities)	9	2	None.
7. Number employees permanently partially disabled during 1918.	None	14	3	2	27	2	None.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?		100 per cent	100 per cent	100 per cent	96 per cent		
9. What percentage of permanently partially disabled were able to resume their original occupation?		78 per cent	33⅓ per cent	50 per cent	75 per cent	None	
10. (a) Who makes physical examination of applicants for service?	Local surgeon	Company surgeons	Company surgeon	Chief surgeon	Local surgeons	Company surgeons	Local surgeons.
(b) Who approves applications from a medical standpoint?		Chief surgeon	Chief surgeon		Chief surgeon reviews reexamination cases only.	Chief surgeon	
11. Are applicants requiring examination on colors, vision, and hearing examined by layman or doctor?	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor.
12. Are laymen considered competent to conduct examinations of employees on colors, vision, and hearing?	No	No	No	No	No	No	No.
13. Has the claims department any authority over surgical department?	No	No	No	No	No	No	Yes.
14. Who is responsible for:							
(a) Sanitation of the railroad?	Department heads	Chief surgeon	Superintendents	General manager	Chemist and department heads.	Superintendent, master mechanic and road-master.	Department heads.
(b) Health of the employees?	do	do	do	Department heads	do	do	Do.
(c) Who initiates the action?	do	do	do	General manager	do	do	Do.

QUESTIONNAIRE 2.—SOUTHWESTERN REGION—Continued.

Name of railroad	Missouri, Kansas & Texas Lines.	Missouri, Oklahoma & Gulf R. R.	Missouri Pacific R. R.	St. Louis-San Francisco R. R.	St. Louis Southwestern R. R.	St. Louis Southwestern R. R. of Texas.	San Antonio & Aransas Pass R. R.
1. Chief surgeon:							
(a) Appointed by	Hospital association board of trustees.	Management	Management	President, hospital association.	General manger	General manager	General manager.
(b) Reports to	do	Claim agent	General manager	do	do	do	Do.
2. Local surgeons:							
(a) Appointed by	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon	Chief surgeon.
(b) Report to	do	do	do	do	do	do	Do.
3. Compensation, company surgeons—salary, fee table, or pass only.	Salary; fee table	Fee table	Salary; fees	Salary; fees	Salary; fee table	Salary; fee table	Salary; fees; others pass only.
4. Pass privilege:							
(a) To local surgeons	Annual local pass	Annual pass good in Oklahoma.	Full time surgeons—all pass privileges; local surgeons State passes.	Annual system pass for self.	Annual system pass	Annual system pass	Annual local pass.
(b) Their families	Trip passes						Trip local passes.
5. How are injury cases cared for in absence of hospital association?	Have hospital association.	Arrangements with hospitals.	Have hospital association (since 1876).	Have hospital association. Operate two hospitals. Contracts with local hospitals.	Have hospital association.	Have hospital association.	Contracts with 5 hospitals along line.
6. Number of employees permanently totally disabled during 1918.	2	2	2	Figures not available at present.	2	None	None.
7. Number of employees permanently partially disabled during 1918.	21	6	85	do	14	5	1.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	66⅔ per cent	100 per cent	100 per cent		100 per cent	80 per cent	100 per cent.
9 What percentage of permanently partially disabled were able to resume original occupation?	33⅓ per cent	83 per cent	82 per cent		43 per cent	80 per cent	100 per cent.
10. (a) Who makes physical examination of applicants for service?	Local surgeons	Chief surgeon	Company surgeons	Division surgeons	Doctors	Doctor	Local surgeons.
(b) Who approves applications from a medical standpoint?			Chief surgeon	Chief surgeon			
11. Are applicants requiring examination on colors, vision and hearing examined by layman or doctor?	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor.
12. Are laymen considered competent to conduct examinations of employees on vision, hearing, and colors?	Not unless specially trained.	Not unless specially trained.	Not in favor of laymen examining men.	No	No	No	No.
13. Has the claims department any authority over surgical department?	No	Yes	No	No	No	No	No.
14. Who is responsible for:							
(a) Sanitation of the railroad	Department heads	Department heads	Surgical department		Chief surgeon	Chief surgeon	Superintendents.
(b) Health of the employees	Surgical department			Medical department	do	do	Do.
(c) Who initiates the action?	Duty incumbent on all			do	do	do	Do.

Name of railroad	Southern Pacific Lines.	Terminal Railroad Association of St. Louis.	Texas & Pacific Railroad.	Vicksburg, Shreveport & Pacific R. R.	Gulf Coast Lines.
1. Chief surgeon:					
(a) Appointed by	Hospital board of managers	General manager	Board of managers hospital association.		General manager.
(b) Reports to	do	do	President of the board and general manager.		Do.
2. Local surgeons:					
(a) Appointed by	Chief surgeon	Chief surgeon	Chief surgeon	General solicitor	Chief surgeon.
(b) Report to	do	do	do	District attorney and claim agent.	Do.
3. Compensation, company surgeons—salary, fee table, or pass only.	Salary, fee table, and pass	Salary	Salary, others fees	Salary, fee table, and local pass only.	Salary, others pass only.
4. Pass privilege:					
(a) To local surgeons	Annual local pass, trip passes for self and family within the State.	Trip passes	System pass	Local pass only, trip passes for self and family, if on payroll.	Pass on division employed.
(b) Their families					
5. How are injury cases cared for in absence of hospital association?	Have hospital association	Have hospital association	Have hospital association, also arrangements with hospitals along line.	Arrangements with three hospitals.	Contract with hospital.
6. Number of employees permanently totally disabled during 1918.	11	5	2	None	None.
7. Number of employees permanently partially disabled during 1918.	19	33	20	1	3.
8. What percentage of permanently partially disabled were capable of resuming some occupation other than that held by them at time of injury without educational preparation?	100 per cent	100 per cent	100 per cent	100 per cent	100 per cent.
9. What percentage of permanently partially disabled were able to resume their original occupation?	52 per cent	73 per cent	80 per cent	None	100 per cent.
10. (a) Who makes physical examination of applicants for service?	Local surgeons	Surgical department	Local surgeons	No such examination made	Chief or division surgeons only.
(b) Who approves applications from a medical standpoint?	Chief surgeon		Chief surgeon		
11. Are applicants requiring examination on vision, hearing and colors examined by layman or doctor?	Doctor	Doctor	Doctor	Layman	Doctor.
12. Are laymen considered competent to conduct examination of employees on vision, hearing, and colors?	Yes	Yes	Yes	No	No.
13. Has the claims department any authority over surgical department?	No	No	No	Yes	No.
14. Who is responsible for:					
(a) Sanitation of the railroad?	Management	Department heads	Operating department	Department heads	Chief surgeon or general manager.
(b) Health of the employees?	do	do	do	do	Do.
(c) Who initiates the action?	do	do	do		Do.

EXHIBIT D.

The committee found a great lack of uniformity within the several States and among the various railroads on the subject of sanitary regulations, and as a result of this lack of uniformity there was created much confusion and many obstacles to successful operation. In many adjoining States conflicting regulations made it difficult to carry out instructions. This matter was brought to the attention of the State and Territorial health officers, and the committee was asked to submit a draft to them. The following code is an expression of the work of the committee. This has been approved by the Director General as rec mmendatory practice for the railroads, and has been approved by Surg. Gen. Blue of the United States Public Health Service. See letter next attached.

TREASURY DEPARTMENT,
BUREAU OF THE PUBLIC HEALTH SERVICE,
Washington, December 5, 1919.

Dr. D. Z. DUNOTT, M. D.,
United Railroad Administration, Washington, D. C.

MY DEAR DOCTOR DUNOTT: I have examined the proposed railway sanitary code, and I desire to congratulate the committee on the excellent provisions contained therein.

I have no hesitancy in giving my approval in view of the fact that they conform to the existing interstate quarantine regulations, but this approval is contingent upon future modification of your code to conform to contemplated changes in the interstate quarantine regulations.

Respectfully,

(Signed) RUPERT BLUE,
Surgeon General.

RAILWAY SANITARY CODE.

REGULATIONS FOR THE MAINTENANCE OF SANITARY CONDITIONS IN RAILWAY CARS, STATIONS, CONSTRUCTION CAMPS, SHOPS, AND OFFICES.

I. TRANSPORTATION OF PERSONS HAVING COMMUNICABLE DISEASES.

SECTION 1. **Persons not allowed to travel.**—No person knowing or suspecting himself to be afflicted with plague, cholera, smallpox, typus fever, or yellow fever shall apply for, procure, or accept transportation in any railway train, car, or other conveyance of a common carrier, nor shall any person apply for, procure, or accept such transportation for any minor, ward, patient, or other person under his charge if known or suspected to be so afflicted.

SEC. 2. **Persons not accepted for travel.**—Common carriers shall not accept for transportation in any railway train, car, or other conveyance any person known by them to be afflicted with any of the diseases enumerated in section 1.

SEC. 3. **Restricted travel.**—Common carriers shall not accept for transportation on any railway train, car, or other conveyance any person known by them to be afflicted with diphtheria, measles, scarlet fever, epidemic cerebrospinal meningitis, anterior poliomyelitis, mumps, whooping cough, influenza, pneumonia, epidemic encephalitis, septic sore throat, rubella, chicken-pox, or erysipelas, or any person known to be a carrier of these diseases, unless such person is placed in a compartment separate from other passengers, is accompanied by a properly qualified nurse or other attendant, and unless such nurse or attendant shall agree to comply and does so comply with the following regulations:

(*a*) Communication with the compartment within which the patient is traveling shall be restricted to the minimum consistent with the proper care and safety of the patient.

(*b*) All dishes and utensils used by the patient shall be placed in a 5 per cent solution of carbolic acid or other fluid of equivalent disinfecting value for at least one hour after they have been used and before being allowed to leave the compartment.

(*c*) All sputum and nasal discharges from the patient shall be received in gauze or paper, which shall be deposited in a paper bag or in a closed vessel, and shall be destroyed by burning.

(*d*) Said nurse or attendant shall, after performing any service to the patient, at once cleanse the hands by washing them in a 2 per cent solution of carbolic acid or other fluid of equivalent disinfecting value.

SEC. 4. **Typhoid and dysentery.**—Common carriers shall not accept for transportation on any railway train, car, or other conveyance any person known by them to be afflicted with typhoid fever, paratyphoid fever, or dysentery, unless said person is placed in a compartment separate from other passengers, is accompanied by a properly qualified nurse or other attendant, and unless said nurse or attendant shall agree to comply and does so comply with the following regulations:

(*a*) Communication with the compartment in which the patient is traveling shall be limited to the minimum consistent with the proper care and safety of the patient.

(*b*) All dishes and utensils used by the patient shall be placed in a 5 per cent solution of carbolic acid or other fluid of equivalent disinfecting value for at least one hour after they have been used and before being allowed to leave the compartment.

(*c*) All urine and feces of the patient shall be received into a 5 per cent solution of carbolic acid or other fluid of equivalent disinfecting value, placed in a covered vessel and allowed to stand for at least two hours after the last addition thereto before being emptied.

(*d*) A sheet of rubber or other impervious material shall be carried and shall be spread between the sheet and the mattress of any bed that may be used by the patient while in transit.

(*e*) Said nurse or attendant shall use all necessary precautions to prevent the access of flies to the patient or his discharges, and after performing any service to the patient shall at once cleanse the hands by washing them in a 2 per cent solution of carbolic acid or other fluid of equivalent disinfecting value.

(*f*) *Provided*, That if a person with typhoid or dysentery is presented at a railway station in ignorance of these regulations, and his transportation is necessary as a life saving or safe-guarding measure, an emergency may be declared and the patient may be carried a reasonable distance in a baggage car if accompanied by an attendant responsible for his care and removal: *Provided also*, That regulations (*a*), (*b*), (*c*), (*d*), and (*e*) of this section shall be complied with in so far as the circumstances will allow, and that all bedding, clothing, rags or cloths, used by the patient shall be removed with him: *And provided further*, That any parts of the car which have become contaminated by any discharges of the patient shall be disinfected at the end of the run by washing with a 5 per cent solution of carbolic acid or other fluid of equivalent disinfecting value.

SEC. 5. **Restricted application for transportation.**—No person knowing or suspecting himself to be afflicted with any of the diseases mentioned in sections 3 and 4 shall apply for, procure, or accept transportation in any railway train, car, or other conveyance of a common carrier, nor shall any person apply for, procure, or accept such transportation for any minor, ward, patient, or other person under his charge, if known or suspected to be so afflicted, unless he shall have agreed to and made all necessary arrangements for complying and does so comply with the regulations set forth in said sections 3 and 4.

SEC. 6. **Suspected cases.**—If a conductor or other person in charge of a railway train, car, or other conveyance of a common carrier, or an agent or other person in charge of a railway station, shall have any reason to suspect that a passenger or a person contemplating passage is afflicted with any of the diseases enumerated in sections 1, 3, and 4, he shall notify the nearest health officer, or company physician if the health officer is not available, by the quickest and most practicable means possible, of his suspicion: and said health officer or physician shall immediately proceed to the train, car, or other conveyance at the nearest possible point, or to the railway station, to determine whether such disease exists.

SEC. 7. **Disposition.**—If the health officer or physician, as provided for in section 6, shall find any such person to be afflicted with any of the diseases enumerated in sections 1, 3, and 4, he shall remove such person from the station or conveyance, or shall isolate him and arrange for his removal at the nearest convenient point; shall treat the car or other conveyance as infected premises, allowing it to proceed to a convenient place for proper treatment if in his judgment consistent with the public welfare, in such case notifying the health officer in whose jurisdiction the place is located; and shall take such other measures as will protect the public health: *Provided*, That if not prohibited in sections 1 and 2 of these regulations the afflicted person so found may be allowed to continue his travel if arrangements are made to comply, and he does so comply, with the requirements of the section of these regulations pertaining to the disease with which he is afflicted.

SEC. 8. **Leprosy.**—Common carriers shall not accept for transportation nor transport in any railway train, car, or other conveyance any person known by them to be afflicted with leprosy, unless such person presents permits from the Surgeon General of the United States Public Health Service or his accredited representative, and from the State department of health of the States from which and to which he is traveling, stating that such person may be received under such restrictions as will prevent the spread of the disease, and said restrictions shall be specified in each instance; and no person knowing or suspecting himself to be afflicted with leprosy, nor any person acting for him, shall apply for, procure, or accept transportation from any common carrier unless such permits have been received and are presented, and unless the person so afflicted agrees to comply and does so comply with the restrictions ordered. If any agent of a common carrier shall suspect that any person in a train, car, or other conveyance, or at a railway station, is afflicted with leprosy, he shall proceed as directed in the case of other suspected diseases in sections 6 and 7 of these regulations.

SEC. 9. **Pulmonary tuberculosis.**—Common carriers shall not accept for transportation any person known by them to be afflicted with pulmonary tuberculosis in a communicable stage unless said person is provided with (*a*) a sputum cup made of impervious material and so constructed as to admit of being tightly closed when not in use, (*b*) a sufficient supply of gauze, papers, or similar articles of the proper size to cover the mouth and nose while coughing or sneezing, (*c*) a heavy paper bag or other tight container for receiving the soiled gauze, paper, or similar articles; and unless such person shall obligate himself to use the articles provided for in the manner intended, and to destroy said articles by burning or to disinfect them by immersing for at least one hour in a 5 per cent solution of carbolic acid or other solution of equivalent disinfecting value; nor shall any person knowing himself to be so afflicted apply for, procure, or accept transportation unless he shall have agreed to and made all necessary arrangements for complying and does so comply with the regulations as set forth in this section.

SEC. 10. **Conveyances vacated by infected persons.**—Immediately after vacation by a person having any of the diseases mentioned in sections 1, 3, 4, and 8, or at

the end of the trip on which such person was carried, the car or other conveyance shall be thoroughly cleaned, and the blankets and linen used by such person shall be laundered.

II. Water and Ice Supplies.

Sec. 11. **Water to be certified.**—Water provided by common carriers for drinking or culinary purposes in railway trains, cars, or other conveyances, or in railway stations, shall not be taken from a supply which is not certified as meeting the required standards of purity and safety from contamination prescribed by the Interstate Quarantine Regulations of the United States. Common carriers are required to forward semiannually a list of water supplies so used to the Surgeon General of the United States Public Health Service, Washington, D. C., and to the respective State departments of health having direct jurisdiction, requesting the issuance of certificates of examination permitting the use of the supplies enumerated. Such certificates when issued shall be kept in the files of the common carrier during the current period in force. The issuance of a certificate unfavorable to the use of a supply forbids its further use for drinking and culinary purposes until favorably certified. A favorable certificate must also be secured permitting the use of any supplies substituted for such condemned supplies.

Melted natural ice used as water supply for drinking and culinary purposes must be from sources of known safety and covered by certificates of examination similar to those required for water supply for drinking and culinary purposes used in interstate traffic, and such ice must be so melted as to prevent subsequent contamination.

Sec. 12. **Ice.**—Ice used for cooling water provided as in section 11 shall be clear natural ice, ice made from distilled water, or ice made from water certified as aforesaid; and before the ice is put into the water it shall be washed with water of known safety, and handled in such manner as to prevent its becoming contaminated by the organisms of infectuous diseases: *Provided,* That the foregoing shall not apply to ice that does not come in contact with the water to be cooled.

Sec. 13. **Water containers.**—Water containers in newly constructed cars and those newly installed in stations shall be so constructed that ice for cooling does not come in contact with the water to be cooled: *Provided,* That after July 1, 1922, all water containers in cars and stations shall be so constructed that ice does not come in contact with the water.

Sec. 14. **Care of water containers.**—All water containers where water and ice are put into the same compartment, shall be thoroughly cleansed at least once in each week that they are in use. All water containers and water storage tanks shall be thoroughly drained and flushed at intervals of not more than one month. All water containers shall, whenever practicable, be disinfected at intervals of not more than one month; and similar disinfection shall, whenever practicable, be made of water storage tanks.

Sec. 15. **Filling water containers.**—Portable hose or tubing that is used for filling drinking-water containers, or car storage tanks from which such containers are filled, shall have smooth metal nozzles which shall be protected from dirt and contamination; and before the free end or nozzle of said hose or tubing is put into the water container or car storage tank it shall be flushed and washed by a plentiful stream of water.

III. Cleaning and Disinfection of Cars.

Sec. 16. **General.**—All railway passenger cars or other public conveyances shall be kept in a reasonably clean and sanitary condition at all times when they are in service, to be insured by mechanical cleaning at terminals and lay-over points.

Sec. 17. **Cleaning.**—All day coaches, parlor cars, buffet cars, dining cars, and sleeping cars shall be brushed, swept, and dusted at the end of each round trip, or at least once in each day they are in service, and shall be thoroughly cleaned at intervals of not more than seven days.

Sec. 18. **Thorough cleaning.**—Thorough cleaning shall consist of scrubbing the exposed floors with soap and water; similarly scrubbing the toilets and toilet-room floors; wiping down the wookwork with moist or oiled cloths; thorough dusting of upholstery and carpets by beating and brushing, or by means of the vacuum process or compressed air; washing or otherwise cleaning windows; and the thorough airing of the car and its contents.

Sec. 19. **Odors in cars.**—When offensive odors appear in toilets or other parts of the car which are not obliterated and removed by cleaning as in section 18, said toilets or other parts of the car shall be treated with a 1 per cent solution of formaldehyde or other odor-destroying substance.

Sec. 20. **Vermin in cars.**—Whenever a car is known to have become infested with bedbugs, lice, fleas, or mosquitoes, such car shall be so treated as to effectively destroy such insects, and it shall not be used in service until such treatment has been given.

IV. Cars in Service.

Sec. 21. **Cleaning.**—The cleaning of cars while occupied shall be limited to the minimum consistent with the maintenance of cleanly conditions, and shall be carried out so as to cause the least possible raising of dust or other annoyance to passengers.

Sec. 22. **Sweeping.**—Dry sweeping of the interior of a car in transit with an ordinary broom is prohibited.

Sec. 23. **Dusting.**—Dry dusting of the interior of a car in transit is prohibited.

SEC. 24. **Brushing.**—The brushing of passengers' clothing in the body of the car in transit is prohibited.

SEC. 25. **Drinking cup.**—Individual drinking cups in sufficient number shall be supplied in all cars, and the use of common drinking cups is prohibited.

SEC. 26. **Towels.**—The supplying of roller towels or other towels for common use in cars is prohibited.

SEC. 27. **Comb and brush.**—The supplying of combs and brushes for common use in cars is prohibited.

SEC. 28. **Spitting.**—Spitting on the floors, carpets, walls, or other parts of cars by passengers or other occupants of them is prohibited.

SEC. 29. **Cuspidors.**—An adequate supply of cuspidors shall be provided in all sleeping cars, smoking cars, and smoking compartments of cars while in service. Said cuspidors shall be cleaned at the end of each trip, and oftener if their condition requires.

SEC. 30. **Brushing of teeth.**—Spitting into or brushing the teeth over washbasins in cars is prohibited. Separate basins for brushing the teeth shall be provided in the wash rooms of sleeping cars.

SEC. 31. **Drinking water and ice.**—Drinking water and ice on railway cars shall be supplied in accordance with the conditions set forth in sections 11, 12, 13, 14, and 15 of these regulations.

SEC. 32. **Ventilation and heating.**—All cars when in service shall be provided with an adequate supply of fresh air, and in cold weather shall be heated so as to maintain comfort. When artificial heat is necessary the temperature should not exceed 70° F., and in sleeping cars at night after passengers have retired it should not exceed 60° F.

SEC. 33. **Toilets in dining cars.**—A proper toilet room and lavatory shall be provided in all dining cars for the use of dining-car employees, and the same shall be supplied with toilet paper, soap, and clean towels, and shall be kept in a clean and sanitary condition. Such toilet room shall have no direct connection with the kitchen, pantry, or other place where food is prepared.

SEC. 34. **Toilets in other cars.**—A proper toilet room and lavatory shall be provided in all railway passenger cars, express cars, mail cars, and baggage cars for the use of their occupants. Such toilets shall be supplied with toilet paper, soap, and free or pay clean towels, and shall be kept in a clean and sanitary condition.

SEC. 35. **Toilets to be locked.**—The toilet rooms in all railway cars shall be locked or otherwise protected from use while trains are standing at stations, passing through cities, or passing over watersheds draining into reservoirs furnishing domestic water supplies, unless adequate water-tight containers are securely placed under the discharge pipe.

SEC. 36. **Dining cars to be screened.**—Dining cars shall be screened against the entrance of flies and other insects, and it shall be the duty of dining-car employees to destroy flies or other insects that may gain entrance.

SEC. 37. **Dining car employees to cleanse hands.**—Dining car employees shall thoroughly cleanse their hands by washing with soap and water after using a toilet or urinal, and immediately before beginning service.

SEC. 38. **Care of tableware.**—All cooking, table, and kitchen utensils, drinking glasses, and crockery used in the preparation or serving of food or drink in dining cars shall be thoroughly washed in boiling water and suitable cleansing material after each time they are used.

SEC. 39. **Food containers.**—Refrigerators, food boxes, or other receptacles for the storing of fresh food in dining and buffet cars shall be emptied and thoroughly washed with soap and hot water and treated with a 1 to 3,000 solution of permanganate of potash or other approved deodorant at least once in each seven days that they are in use.

SEC. 40. **Food and milk.**—No spoiled or tainted food, whether cooked or uncooked, shall be served in any dining car; and no milk or milk products shall be served unless the milk has been pasteurized or boiled.

SEC. 41. **Garbage.**—Garbage cans in sufficient number, and with suitable tight-fitting covers, shall be provided in dining cars to care for all refuse food and other wastes, and such wastes shall not be thrown from the car along the right-of-way.

SEC. 42. **Dining car inspection.**—The chief of the dining car shall be responsible for compliance with all dining car regulations, and he shall make an inspection of the car each day for the purpose of maintaining a rigorous cleanliness in all portions thereof.

SEC. 43. **Examination of food handlers.**—No person shall be employed as a cook, waiter, or in any other capacity in the preparation or serving of food in a dining car who is known or suspected to have any dangerous communicable disease; and all persons so employed shall undergo a physical examination by a competent physician before being assigned to service, and before returning to work after any disabling illness, to determine their freedom from such diseases, and shall be immediately relieved from service if found to be so afflicted. There shall be a monthly medical inspection for dangerous communicable diseases. To determine persons afflictedw ith, or carriers of, typhoid fever, tuberculosis, dysentery, diphtheria, streptococcic sore throat, scarlet fever, gonorrhea, syphilis, etc., a laboratory examination shall be made if necessary.

V. RAILWAY STATIONS.

SEC. 44. **General.**—All railway stations, including their waiting rooms, lunch rooms, restaurants, wash rooms, and toilets, shall be kept in a clean and sani-

tary condition at all times, to be insured by mechanical cleaning at regular intervals.

SEC. 45. **Cleaning.**—All waiting rooms and other rooms used by the public shall be swept and dusted daily; and at intervals of not more than seven days the floors shall be scrubbed with soap and water, and the seats, benches, counters, and other woodwork shall be similarly scrubbed, or shall be rubbed down with a cloth moistened with oil.

SEC. 46. **Sweeping.**—If sweeping is done while rooms are occupied or open to occupancy by patrons, the floor shall be first sprinkled with wet sawdust or other dust-absorbing material.

SEC. 47. **Dusting.**—If dusting is done while rooms are occupied or open to occupancy by patrons, it shall be done only with cloths moistened with water, oil or other dust-absorbing material.

SEC. 48. **Spitting.**—Spitting on the floors, walls, seats, or platforms of railway stations is prohibited.

SEC. 49. **Cuspidors.**—In all waiting rooms where smoking is permitted an adequate supply of cuspidors shall be provided; such cuspidors shall be cleaned daily, and oftener if their condition requires.

SEC. 50. **Common cups.**—Individual drinking cups in sufficient number shall be supplied in all stations, and the use of common drinking cups is prohibited.

SEC. 51. **Common towels.**—The supplying of roller towels or other towels for common use in railway stations is prohibited.

SEC. 52. **Combs and brushes.**—The supplying of combs and brushes for common use in railway stations is prohibited.

SEC. 53. **Toilet facilities.**—All railway stations where tickets are sold shall provide adequate toilet facilities, of a design approved by the State department of health, for the use of patrons and employees; and there shall be seperate toilets for each of the two sexes.

SEC. 54. **Station toilets.**—If a railway station is located within 300 feet of a public sewer, water-flushing toilets shall be installed and permanently connected with such sewer, and a wash basin or basins shall be located near the toilet and similarly connected; and such toilets and lavatories shall be kept in repair and in good working order at all times.

SEC. 55. **Care of toilets.**—All toilets installed as set forth in section 54 shall be cleaned daily by scrubbing the floors, bowls, and seats with soap and water.

SEC. 56. **Odors in toilets.**—When offensive odors appear in toilets which are not obliterated and removed by cleaning as in section 55, said toilets shall be treated with a 1 per cent solution of formaldehyde or other odor-destroying substance.

SEC. 57. **Toilet supplies.**—Toilets and wash rooms installed as set forth in section 54 shall be constantly furnished with an adequate supply of toilet paper, soap, and free or pay clean towels.

SEC. 58. **Privies.**—If no sewer connection is available as set forth in section 54, a sanitary privy of a design approved by the State department of health shall be maintained within a reasonable distance from the station. Such privy shall be adequately protected against the entrance of flies, shall be kept supplied with toilet paper, the seats shall be kept clean, and the vaults shall be treated with sodium hydrate or other approved disinfectant at least once in each week and shall be cleaned out and emptied at such intervals as will avoid the development of a nuisance.

SEC. 59. **Drinking water and ice.**—Drinking water and ice in railway stations shall be supplied in accordance with sections 11, 12, 13, 14, and 15 of these regulations.

SEC. 60. **Water not usable for drinking.**—If water which does not conform to the standards set forth in section 11 of these regulations is available at any tap or hydrant or in a railway station, a notice shall be maintained on each such tap or hydrant which shall state in prominent letters, "Not fit for drinking."

SEC. 61. **Drinking fountains.**—If drinking fountains of the bubbling type are provided in any railway station, they shall be so made that the drinking is from a free jet projected at an angle to the vertical and not from a jet that is projected vertically or that flows through a filled cup or bowl.

SEC. 62. **Refuse cans.**—At all railway stations where there is an agent there shall be provided and maintained an adequate supply of open or automatically closing receptacles for the deposition of refuse and rubbish, and such receptacles shall be emptied daily and kept reasonably clean and free from odor.

SEC. 63. **Cisterns, cesspools, etc.**—All cisterns, water-storage tanks, and cesspools in or about railway stations shall be adequately screened against the entrance of mosquitoes, and all collections of surface water on station property shall be drained or oiled during the season of mosquito flight, to prevent the breeding of mosquitoes.

SEC. 64. **Restaurants to be screened.**—All restaurants and lunch rooms, or other places where food is prepared or served in a railway station, shall have doors and windows adequately screened against the entrance of flies during the season of flight of these insects; and all food on display or storage racks shall be adequately covered.

SEC. 65. **Lavatories for restaurants.**—A lavatory of easy and convenient access shall be provided for the use of employees in every restaurant or lunch room in any railway station, and it shall be provided with an adequate supply of water, soap, and clean towels.

SEC. 66. **Restaurant employees.**—Restaurant employees who are engaged in the preparing or serving of food shall thoroughly cleanse their hands by washing with soap and water after using a toilet or urinal, and immediately before beginning service.

SEC. 67. **Kitchen and table utensils.**—All cooking, table, and kitchen utensils, drinking glasses, and crockery used in the preparation or serving of food or drink

in railway restaurants or lunch rooms shall be thoroughly washed in boiling water and suitable cleansing material after each time they are used.

SEC. 68. **Food containers.**—Refrigerators, food boxes, or other receptacles for the storing of fresh food in railway restaurants or lunch rooms shall be emptied and thoroughly washed with soap and hot water and treated with a 1 to 3,000 solution of permanganate of potash or other approved deodorant at least once in each seven days that they are in use.

SEC. 69. **Garbage.**—Garbage cans in sufficient number, and with suitable tight-fitting covers, shall be provided in all restaurants and lunch rooms to care for all refuse food and other wastes; and such cans shall be emptied daily in an approved place and kept in a clean and sanitary condition.

SEC. 70. **Restaurant inspection.**—The manager, chief, or other person in charge of any railway restaurant or lunch room shall be responsible for compliance with all regulations pertaining thereto, and he shall make an inspection of the premises daily for the purpose of maintaining a rigorous cleanliness in all parts thereof.

SEC. 71. **Station inspection.**—The agent, manager, or other person in charge of any railway station shall be responsible for compliance with all regulations pertaining thereto, and he shall make, or have made by a responsible person reporting to him, frequent inspections of the premises for the purpose of maintaining a rigorous compliance with all such regulations.

SEC. 72. **Examination of food handlers.**—No person shall be employed as a cook, waiter, or in any other capacity in the preparation or serving of food in a railway restaurant or lunch room who is known or suspected to have any dangerous communicable disease; and all persons so employed shall undergo a physical examination by a competent physician before being assigned to service, and before returning to work after any disabling illness, to determine their freedom from such diseases, and shall be immediately relieved from service if found to be so afflicted. There shall be a monthly medical inspection for dangerous communicable diseases. To determine persons afflicted with, or carriers of, typhoid fever, tuberculosis, dysentery, diphtheria, streptococic sore throat, scarlet fever, gonorrhea, syphilis, etc., a laboratory examination shall be made if necessary.

VI. CONSTRUCTION CAMPS.

SEC. 73. **Definition.**—For the purposes of these regulations railway construction camps shall be considered to include all camps and similar places of temporary abode, including those on wheels, established by or for the care of working forces engaged in the construction, repair, or alteration of railway properties or parts thereof: *Provided*, That camps which are occupied by less than five people, or camps which are established to meet emergency conditions and are not occupied longer than five days shall not be included, except that section 90 of these regulations shall apply to them.

SEC. 74. **General.**—All camps shall be so located and so maintained as to be conducive to the health of their occupants and not to endanger the health of the public; and all tents, houses, stables, or other structures therein shall be kept in a reasonably clean and sanitary condition at all times.

SEC. 75. **Location.**—Camps, except those on wheels, should be located on high, well-drained ground; any natural sink-holes, pools, or other surface collections of water in the immediate vicinity should be drained and filled when the camp is first established; and all such water not subject to complete drainage should have the surface oiled at intervals of not more than seven days during the season of mosquito flight.

SEC. 76. **Arrangement.**—The general scheme of relations of the structures of a camp should be as follows: The kitchen should be located at one end of the camp; next to this should be the eating quarters, then the sleeping quarters, then the toilets for the men, then the stable, thus bringing the kitchen and the stable at opposite ends of the camp, which should be as far apart as is consistent with the natural topography and the necessity for convenient access.

SEC. 77. **Water supplies.**—All water supplies for camps shall be properly chlorinated, unless obtained from a source which has been approved by the State department of health.

SEC. 78. **Water containers.**—All drinking-water containers in camps shall be securely closed and so arranged that water can be drawn only from a tap, and said containers shall be kept clean and free from contamination.

SEC. 79. **Garbage and refuse.**—All garbage, kitchen wastes, and other rubbish in camps shall be deposited in suitably covered receptacles, the contents of which shall be emptied and burned each day; and manure from the stables shall be likewise collected and burned each day, or disposed of in some other manner approved by the State department of health.

SEC. 80. **Scavenger.**—In all camps where there are 100 men or more there shall be 1 employee whose duty shall be to act as scavenger and garbage collector.

SEC. 81. **Toilets.**—Every camp shall have an adequate number of latrines and urinals, so constructed and maintained as to prevent fly breeding and the pollution of water, and the use of such latrines and urinals by the inhabitants of the camp shall be made obligatory. Latrines and urinals may consist of deep trenches covered with houses adequately screened against flies, or of any other type approved by the State department of health. They shall not be located within less than 200 feet of any spring, stream, lake, or reservoir forming part of a public or private water supply.

Sec. 82. **Bathing facilities.**—There shall be provided in all camps adequate bathing facilities for the use of the occupants thereof.

Sec. 83. **Screening.**—The kitchen, eating houses, and bunk houses of all camps shall be effectively screened against the entrance of flies and mosquitoes during the seasons of flight of these insects.

Sec. 84. **Care to tableware.**—All cooking, table, and kitchen utensils, drinking glasses, and crockery used in the preparation or serving of food or drink in camps shall be thoroughly washed in boiling water and suitable cleansing material after each time they are used.

Sec. 85. **Food containers.**—Refrigerators, food boxes, or other receptacles for the storing of fresh food in camps shall be emptied and thoroughly washed with soap and hot water and treated with a 1 to 3,000 solution of permanganate of potash or other approved deodorant at least once in each seven days that they are in use.

Sec. 86. **Food and milk.**—No spoiled or tainted food, whether cooked or uncooked, shall be served in any camp; and no milk or milk products shall be served unless the milk has been pasteurized or boiled.

Sec. 87. **Examination of food handlers.**—No person shall be employed as a cook, waiter, or in any other capacity in the preparation or serving of food in any camp who is known or suspected to have any dangerous communicable disease; and all persons so employed shall undergo a physical examination by a competent physician before being assigned to service, and before returning to work after any disabling illness, to determine their freedom from such diseases, and shall be immediately relieved from service if found to be so afflicted. There shall be a monthly medical inspection for dangerous communicable diseases. To determine persons afflicted with, or carriers of, typhoid fever, tuberculosis, dysentery, diphtheria, streptococic sore throat, scarlet fever, gonorrhea, syphilis, etc., a laboratory examination shall be made if necessary.

Sec. 88. **Sick persons.**—When an occupant of a camp becomes sick with a dangerous communicable disease, he should be immediately isolated and not released until declared by a proper health authority to be free from dangerous infection.

Sec. 89. **Vermin.**— It shall be the duty of some one appointed as caretaker of the camp to make regular weekly inspections of the occupants and premises in order to ascertain the presence of lice or other vermin. Persons found to be infested shall be required to bathe, and their clothing shall be boiled; and premises found to be infested shall be fumigated with sulphur or treated by some other effective vermin-destroying method.

Sec. 90. **Abandoned camps.**—When any camp is to be abandoned, all garbage, rubbish, and manure shall be collected and burned, the latrine trenches filled, and the grounds and buildings shall be left in a clean and sanitary condition.

Sec. 91. **Duty to enforce regulations.**—It shall be the duty of the superintendent, foreman, or other person in charge of a camp to see that all regulations pertaining thereto are faithfully complied with.

VII. Offices.

Sec. 92. **Definition.**—For the purposes of these regulations offices shall be considered to include all buildings or parts of buildings occupied or used as the offices, headquarters, or working spaces of the clerical administrative, or executive forces of railways or other common carriers.

Sec. 93. **Space.**—All offices shall contain not less than 400 cubic feet of space for each occupant.

Sec. 94. **Ventilation, heat, and light.**—All offices when occupied shall be provided with an adequate supply of fresh air, heat, and light for the maintenance of healthful and comfortable working conditions. Any measures taken to assure continuous ventilation during working hours should be supplemented by the opening of doors and windows for at least five minutes before the beginning of morning and afternoon work periods and once during each of such periods. When artificial heat is necessary, the temperature should not exceed 70° F. Window space should be sufficient to allow of the use of natural sky light in all parts of offices during the brighter parts of the day, and when artificial lights are used they should be so arranged and shaded as to prevent direct glare.

Sec. 95. **Cleaning.**—All offices, together with the corridors, stairs, or passageways leading to them, shall be swept and dusted daily; and at intervals of not more than seven days the floors shall be scrubbed with soap and water, and the woodwork and furniture rubbed clean with a cloth moistened with water or oil. Cleaning shall not be carried on while offices are occupied by employees, except in offices which are occupied continuously; and in such case sweeping may be done only after the floor has been sprinkled with wet sawdust or other dust-absorbing material, and dusting only with a cloth moistened with water or oil.

Sec. 96. **Window cleaning.**—Office windows shall be washed or otherwise cleaned at such intervals as will assure a free and uninterrupted flow of light to office interiors, and in no case shall such cleaning be less frequent than once in each month.

Sec. 97. **Telephones.**—Telephone earpieces and mouthpieces should be cleaned with soap and water at least once in each week.

Sec. 98. **Spitting.**—Spitting on the floors, walls, stairways, or other parts of offices or office buildings is prohibited.

Sec. 99. **Cuspidors.**—If cuspidors are provided in offices or office buildings they shall be cleaned daily, and oftener if their condition requires.

SEC. 100. **Toilets.**—All offices and office buildings shall be provided with adequate toilet and lavatory facilities of an approved sanitary type, conveniently located for the use of employees; and where members of both sexes are employed, separate toilets shall be maintained for each sex. Where a sewer is available, toilets shall be of the water-flushing type and permanently connected thereto.

SEC. 101. **Care of toilets.**—All toilets installed as set forth in section 100 shall be kept in repair and in good working order, and shall be cleaned daily by scrubbing the floors, bowls, and seats with soap and water. When offensive odors appear in toilets which are not obliterated and removed by cleaning as above set forth, said toilets shall be treated with a 1 per cent solution of formaldehyde or other odor-destroying substance.

SEC. 102. **Toilet supplies.**—Toilets and lavatories installed as set forth in section 100 shall be furnished with an adequate supply of toilet paper, soap, and clean towels.

SEC. 103. **Common towels.**—The supplying of roller towels or other towels for common use in offices or office buildings of common carriers is prohibited.

SEC. 104. **Combs and brushes.**—The supplying of combs and brushes for common use in offices or office buildings of common carriers is prohibited.

SEC. 105. **Common cups.**—Individual drinking cups in sufficient number shall be supplied in the offices of common carriers, and the use of common drinking cups is prohibited.

SEC. 106. **Drinking water and ice.**—If the drinking water provided in offices or office buildings of common carriers is not obtained from an approved municipal supply, or is not distilled or otherwise sterilized before being used, it shall be subject to the conditions set forth in section 11 of these regulations. Ice used for cooling drinking water shall be subject to the conditions set forth in section 12 of these regulations; and drinking-water containers shall be subject to the conditions set forth in sections 13, 14, and 15 of these regulations.

SEC. 107. **Drinking fountains.**—If drinking fountains of the bubbling type are provided in the offices or office buildings of common carriers, they shall be so made that the drinking is from a free jet projected at an angle to the vertical, and not from a jet that is projected vertically or that flows through a filled cup or bowl.

SEC. 108. **Lockers.**—If lockers are supplied for the use of employees, they shall be kept clean and free from discarded clothing.

SEC. 109. **Rest rooms.**—A rest room shall be provided in all offices or office buildings of common carriers where 100 or more women are employed; and such room is desirable where any smaller number of women are employed.

SEC. 110. **Communicable diseases.**—When an employee who is convalescent from a communicable disease reports for duty, such employee shall not be allowed to resume work until a satisfactory certificate or release from the health officer having jurisdiction has been secured stating that there is no remaining danger of his communicating disease to other people.

VIII. SHOPS.

SEC. 111. **Toilet facilities.**—All repair, constructing, or other shops of common carriers shall be provided with adequate toilet facilities for the use of the employees; and if both men and women are employed, such facilities shall be separate for the two sexes. Where running water and sewers are available, all toilet fixtures shall be permanently connected thereto.

SEC. 112. **Type of water-closets.**—Water-closets should be of the individual bowl type with individual water seal; flush range closets shall not be used. The seats should be wood or other poor conducting material, and should be rendered impervious to water by coating with varnish or by other means. The seats should be of the cut-out-front type, or if closed in front, the openings should be at least 7 inches wide by 11 inches long.

SEC. 113. **Closet inclosures.**—The separate seats of water-closets shall be so inclosed as to secure privacy for the users. Between the seats there should be partitions about 6 feet high and 12 inches off the floor, and each inclosure should have a swinging door of proper height. Each inclosure should have not less than 10 square feet of floor space and not less than 100 cubic feet of air space, and the walls and partitions should be of light color to increase illumination and facilitate cleaning. The floors should be of tile or concrete with a smooth surface and should be nonabsorbent.

SEC. 114. **Windows in toilet rooms.**—All toilet rooms containing water-closets should be open to outside light and air. The minimum window space for a room containing one closet fixture should be four square feet, and for each additional fixture there should be an addition of two square feet of window space. Windows should be so arranged that they can be opened for affording free ventilation.

SEC. 115. **Equipment of closets.**—All closet inclosures shall be equipped with clothes hooks and with a plentiful supply of toilet paper with proper holder.

SEC. 116. **Type of urinals.**—Urinals should be of the vertical slab or the porcelain stall type with proper flushing; troughs or basins shall not be used for this purpose. There should be protection around urinals to secure privacy. The floor in front of the urinal should be impervious and nonabsorbent and should slope to drain.

SEC. 117. **Care of closets and urinals.**—All water-closets and urinals, together with the floors, bowls, and seats, shall be kept in a reasonably clean and sanitary condition at all times. They should be cleaned by scrubbing with soap and water daily, and when offensive odors develop which are not removed by such cleaning, they should be treated with a 1 per cent formaldehyde solution or other odor-destroying substance.

SEC. 118. **Number of closets and urinals.**—Closets should be installed in the proportion of 1 to each 25 employees on any one shift; and urinals should be installed in the proportion of one to each 50 male employees on any one shift.

SEC. 119. **Location of closets and urinals.**—Closets and urinals should be located as conveniently as possible to work. There should be a number of small installations rather than a few larger ones.

SEC. 120. **Privies.**—Where water and sewer connections are not available, sanitary privies of a type approved by the State department of health shall be provided, with a ratio of not less than 1 seat to each 25 employees on any one shift. They shall be adequately protected against the entrance of flies, and shall be kept in a clean and sanitary condition at all times. The vaults shall be treated with caustic soda or other approved disinfectant at intervals of not more than seven days, and shall be emptied at such intervals as will avoid the development of a nuisance.

SEC. 121. **Wash rooms and lockers.**—Ample washing facilities and locker space shall be provided for employees. If possible, wash rooms and locker rooms should be along the routes of employees when going from work, and so located as to avoid undue hazard or exposure to the weather in reaching them. They should be separated from toilet rooms by partitions or otherwise, and should open to outside light and air. Sufficient window space should be provided to afford adequate light and ventilation.

SEC. 122. **Type of wash room fixtures.**—Facilities for washing should be either so constructed that the users must necessarily wash from a flowing stream, or individual basins; and no large basins or troughs for common use should be installed. Both hot and cold water, delivered through a common discharge pipe, should be supplied to each fixture. Soap should be provided; and fixtures should be so spaced that a man can wash without splashing his neighbor.

SEC. 123. **Finish of wash floors.**—The floors of wash rooms should be of concrete or other nonabsorbent material and should slope toward central drains. The walls, ceilings, and partitions should be light in color to increase illumination and to facilitate cleaning, and the rooms should be adequately lighted artificially so that no dark corners will exist.

SEC. 124. **Lockers.**—A locker or other provision for caring for a change of clothing shall be supplied for each employee who has a fixed place of work. Lockers should be elevated at least 4 inches off the floor, should be not less than 12 by 15 inches in floor dimensions, and should be ventilated by perforated doors or otherwise.

SEC. 125. **Bathing facilities.**—Shower baths shall be provided in the proportion of 1 to each 25 employees for all employees who work with lead, paint, or in very dusty or dirty places. They should be located adjoining locker rooms, should be inclosed so as to afford privacy, and should be supplied with hot and cold water delivered through a common discharge pipe. The floors should be of concrete or other nonabsorbent material and should slope to a central drain.

SEC. 126. **Caretakers.**—There shall be caretakers in sufficient number responsible for the cleaning, supplying, and upkeep of toilets, wash rooms, and locker rooms.

SEC. 127. **Lighting.**—In all shops and parts of shops there shall be an adequate amount of light for the occupation or process being carried on therein; and the glare of direct light passing from unshaded sources directly to the eyes of workers should be avoided. Wherever shops are dependent upon window lighting, the glass shall be kept clean.

SEC. 128. **Water supplies.**—An adequate supply of drinking water, conveniently located for the use of employees, shall be supplied in all shops. If the drinking water provided is not obtained from an approved municipal supply, or is not distilled or otherwise sterilized before being used, it shall be subject to the conditions set forth in section 11 of these regulations. Ice used for cooling drinking water shall be subject to the conditions set forth in section 12 of these regulations, and drinking-water containers shall be subject to sections 13, 14, and 15 of these regulations.

SEC. 129. **Drinking fountains.**—If drinking fountains of the bubbling type are provided, they shall be so made that the drinking is from a free jet projected at an angle to the vertical, and not from a jet that is projected vertically or that flows through a filled cup or bowl.

SEC. 130. **Common cups.**—The use or supplying of drinking cups for the common use of employees is prohibited.

SEC. 131. **Common towels.**—The use or supplying of roller towels or other towels for the common use of employees is prohibited.

SEC. 132. **Rest rooms.**—A rest room shall be provided in all shops where 100 or more women are employed; and such room is desirable where any smaller number of women are employed.

SEC. 133. **Communicable diseases.**—When an employee who is convalescent from a communicable disease reports for duty, such employee shall not be allowed to resume work until a satisfactory certificate or release from the health officer having jurisdiction has been secured stating that there is no remaining danger of his communicating disease to other people.

EXHIBIT E.

GENERAL AND DEPARTMENTAL RULES GOVERNING PHYSICAL EXAMINATIONS OF APPLICANTS FOR EMPLOYMENT, PROMOTION, AND PERIODIC EXAMINATION IN ORDER TO DETERMINE THEIR FITNESS FOR SERVICE, AS RECOMMENDED BY COMMITTEE.

GENERAL RULES.*

1. The essential qualifications for various positions shall be determined by the examinations herein prescribed.

2. Examinations shall not be made when a candidate has just come in from a run or been subjected to unusual fatigue.

3. Candidates for employment or selected for promotion shall pass the required examinations and tests before being permitted to enter upon the duties of the position sought.

4. The general mental characteristics and bearing of the candidate, such as confident, diffident, bright, dull, quick, slow, etc., shall be noted on the application blank by the examiner.

5. Reexaminations may be ordered at any time by proper authority.

6. Applications shall be approved or rejected by proper authority.

7. The various roads shall prescribe a form which will properly take care of examination records.

8. The date of reexamination shall be computed from the time of the last physical examination. If there has been no previous physical examination, the date of reexamination shall be computed from the date these regulations become effective.

9. If an employee subject to reexamination is relieved from service or his service changed as a result of the examining physician's findings, he may appeal to a medical board composed of one physician chosen by the railroad and one by the employee; if this board fails to agree, it shall select a third member. The members of the board shall be men of good standing in the community and of recognized professional ability. The expense of examination shall be assumed by the railroad. The findings of the board shall be considered as final and submitted to the proper authorities.

10. Employees when examined for promotion or periodically are found to have any of the disqualifying defects applying to applicants for service, a full report of such defect or defects shall be made to officer to whom the examiner reports. No such employee shall be relieved from service without the approval of the general manager or his accredited representative.

*A physical examination may be made at any time on request of the employing officer, the employee, or on written request of three fellow employees.

DEPARTMENTAL RULES.

TRANSPORTATION DEPARTMENT.

AGE LIMIT.

11. With the exception of clerks, messengers, and call boys, the minimum age shall be 21 years, maximum 45 years.

12. The maximum age for inexperienced applicants for positions as firemen or brakemen shall be 35 years.

PHYSICAL EXAMINATION.

13. Applicants for service shall undergo a physical examination including vision and hearing. Applicants for train service and for other positions connected in any manner with the operation of trains shall in addition pass a satisfactory examination on colors.

14. Examining physicians shall recommend for rejection applicants whose hearing and vision (and color sense when required) do not conform to standard, or who are found to be physically or mentally unfit.

PROMOTION.

15. Employees before being promoted shall undergo a physical examination including vision and hearing, and in certain classes as covered by rule 17 also shall pass a satisfactory examination on colors.

PERIODIC PHYSICAL EXAMINATION.

16. Employees in train service or holding other positions in any manner connected with the operation of trains shall undergo a physical examination including vision, hearing, and colors at least every five years.

17. Employees who are 45 years of age or over in train service or holding other positions in any manner connected with the operation of trains shall undergo a physical examination including vision, hearing, and colors every two years.

MAINTENANCE OF WAY DEPARTMENT.

AGE LIMIT.

18. With the exception of clerks, water boys, and messengers, the minimum age shall be 18 years, maximum 45 years.

PHYSICAL EXAMINATION.

19. Applicants for service shall undergo a physical examination including vision and hearing. Applicants for positions connected in any manner with the operation of trains shall in addition pass a satisfactory examination on colors.

20. Examining physicians shall recommend for rejection applicants whose hearing and vision (and color sense when required) do not conform to standard, or who are found to be physically or mentally unfit.

PROMOTION.

21. Employees promoted to positions connected in any manner with the operation of trains shall undergo a physical examination including vision, hearing, and colors.

PERIODIC PHYSICAL EXAMINATION.

22. Employees connected in any manner with the operation of trains shall undergo a physical examination at least every 5 years, including vision, hearing, and colors.

23. Employees who are 45 years of age or over connected in any manner with the operation of trains shall undergo a physical examination, including vision, hearing, and colors every two years.

MAINTENANCE OF EQUIPMENT DEPARTMENT.

[Does not apply during the existence of the agreement between the United States Railroad Administration and the Railway Employees Department of the American Federation of Labor, Mechanical Section, and Divisions Nos. 1. 2, and 3, because of rule 46.]

AGE LIMIT.

24. With the exception of clerks, messengers, call boys, and apprentices, the minimum age shall be 18 years, maximum 45 years.

PHYSICAL EXAMINATION.

25. Applicants for service shall undergo a physical examination, including vision and hearing. Applicants for positions connected in any manner with the operation of trains shall in addition pass a satisfactory examination on colors.

26. Examining physicians shall recommend for rejection applicants whose hearing and vision (and color sense when required) do not conform to standard, or who are found to be physically or mentally unfit.

PROMOTION.

27. Employees promoted to positions connected in any manner with the operation of trains shall undergo a physical examination, including vision, hearing, and colors.

28. Employees who by nature of their employment might because of sudden physical incapacity endanger the lives of fellow employees shall undergo a physical examination.

PERIODIC PHYSICAL EXAMINATION.

29. Employees connected in any manner with the operation of trains shall undergo a physical examination at least every five years, including vision, hearing, and colors.

30. Employees who by nature of their employment might by sudden physical incapacity endanger the lives of other employees shall undergo a physical examination at least every five years.

31. Employees subject to examination for promotion and periodic examination who are 45 years of age or over shall undergo a physical examination at least every two years.

RULES GOVERNING VISION EXAMINATION.

32. A set of at least two standard cards of Snellen's test letters showing letters of various sizes from 20 to 70, inclusive. The letters to be arranged in different order in the corresponding lines of each card.

33. A standard reading test card with matter printed in various type.

34. A test spectacle frame with opaque disk.

NOTE.—The following may be used if desired: A set of test cards showing semaphores in various positions.

METHOD OF TESTING.

LETTER CARD TEST.

Place the candidate to be examined so that he will not face a strong light; cover one of his eyes with opaque disk in test frame; place one of the cards at a distance of 20 feet from him, in a clear light, but not in direct sunlight, and direct him to read the letters on certain lines as selected by the examiner, including the line marked 20. A portion of the test card may be covered and the candidate required to read the remainder of the line of letters, or certain letters at each end of the line may be covered and the candidate required to read the intervening letters. If he can read the letters on the line marked 20 correctly, substitute another card with a different arrangement of letters and test in a similar manner. If he reads the letters on the line marked 20 on both cards correctly, it indicates normal vision. If he can not read the letters on the line marked 20, direct him to read the lines above 20 successively until a line is found which he can read.

Record in fractions the acuteness of vision as determined, the numerator being 20 (the distance at which the card is placed) and the denominator the number on the card showing the smallest sized letters that he has read correctly. Repeat this test with the other eye and record the results. Mistakes of not more than three letters on the 20 line; two letters on the 30 line; and one letter on the 40 line will be considered as a satisfactory reading. Other lines must be read without error.

READING CARD TEST.

Direct the candidate to read certain letters or sentences from the standard reading test card and record the smallest size of print read correctly at the ordinary distance of from 14 to 18 inches. A portion of the test card may be covered and the candidate required to read the remainder of the paragraph. The candidate should be able to read the print in paragraph two of the standard card to pass the test satisfactorily. This test should be made without glasses except at the age or under the conditions where the use of glasses is permitted.

VISUAL STANDARDS.

Occupation.	To enter service.	To be promoted.	Reexamination.
Enginemen and firemen, road service.	20/20 in each eye tested separately, without glasses.	20/20 in one eye and not less than 20/30 in the other, tested separately, with or without glasses.	Not less than 20/30 in each eye, with or without glasses.
Enginemen and firemen, yard service.	20/20 in each eye, tested separately, without glasses.	20/20 in one eye and not less than 20/30 in the other, with or without glasses.	Not less than 20/30 in one eye and 20/40 in the other, with or without glasses.
Passenger conductors, passenger brakemen, passenger baggage masters, yard conductors, yard brakemen, freight conductors, freight brakemen, flagmen.	20/20 in one eye and not less than 20/30 in the other, without glasses.	Not less than 20/30 in one eye and 20/40 in the other, with or without glasses.	Not less than 20/40 in each eye, with or without glasses.
Road foremen of engines, yard masters, telegraph operators, station agents, section foremen, assistant section foremen, switch tenders, signalmen, lampmen, hostlers.	Not less than 20/30 in one eye and 20/40 in the other, with or without glasses.	Not less than 20/40 in each eye, with or without glasses.	Not less than 20/40 in each eye, with or without glasses.
Car inspectors, engine inspectors.	Not less than 20/30 in one eye and 20/40 in the other, with or without glasses.	.....	Not less than 20/40 in each eye, with or without glasses.
Crossing watchmen.....	Not less than 20/40 in each eye, with or without glasses.	.....	Not less than 20/40 in one eye and 20/50 in the other, with or without glasses.

35. Applicants for service not noted in above classification whose vision with or without glasses is not less than 20/40 in one eye and 20/50 in the other may be recommended for acceptance for service if not barred by any other physical or mental defect.

36. The above standards will be considered satisfactory for employees in classes mentioned. Exceptions can be made only by authority of the general manager.

37. It is compulsory for employees requiring glasses to bring their vision up to required standard, to wear their glasses while on duty, and to have an extra pair of glasses with them.

RULES GOVERNING COLOR PERCEPTION.

38. A set of Holmgren color test worsteds, or equal, and in doubtful cases, a Williams lantern, or its equal.

Method of Testing.

Place the whole number of colored worsteds on a table in good, clear daylight. Put the test skein "light-green" at a distance of about 2 feet from the other colors, and ask the candidate being examined to select from the heap of colors all that look to him like the test skein, and place them beside it. Have him understand that he is not expected to find an exact match for the test skein, but that he is to choose all the colors that appear to him of the same general color as the test skein, both those that are lighter and those that are darker in shade. If he does not easily understand what is wanted, let the examiner himself select the colors; then, having returned them to the general heap and mixed them thoroughly with the rest of the colors, let him call on the candidate being examined to repeat the selection. This demonstration will not enable a candidate who is defective in his color perception to select the colors correctly, and he may pick out as looking to him like the test skein "light-green" some of the greens and also some of the gray or brown confusion colors, which will appear to him of the same general color as the test skein, only varying from it in shade. Record the number of the colors incorrectly selected as being similar to the test skein "light-green," and also note whether the selection is prompt or hesitating, by writing the letter "P" or "H" on the line opposite each of the names of the colors as printed. Return all the colors to the heap and mix them together, then place the test skein "rose" 2 feet from the rest of the colors, and have the candidate being examined select, as before, all the colors that look to him like the "rose" skein, and record the results as for "light-green" skein.

No names should be mentioned in connection with any color in the above worsted tests, which should be based only on a comparison of colors.

If the candidate for employment being examined selects as looking like the green-test skein any of the

reds, or as looking like the rose-test skein any of the greens, the candidate shall be rejected. If a candidate for promotion or reexamination makes such a selection, full report shall be made to officer to whom the examiner reports.

If the candidate for employment selects some of the grays or browns as looking like the green-test skein or some of the grays, blues, or violets as looking like the rose-test skein, the candidate shall be rejected. If a candidate for promotion or reexamination makes such a selection, full report shall be made to officer to whom the examiner reports.

The selection by the candidate of one of the "colors of confusion," as matching test skein light-green, indicates color blindness. The failure to do this, but a manifest disposition to do so, indicates feeble color perception; making correct selection to match test skein "rose," having failed to match test skein "light-green," incomplete color blindness is indicated. But should he in this test select the purple, the green, and gray shades also, or one of them, complete green blindness is indicated. The test with skein "red" (which is applied only to those who are color blind as to green or red) should be continued until the candidate under examination has selected the specimens of or a greater part of the skeins belonging to this color or else one of several "colors of confusion." In this test red blindness is proven by the selection, besides the red shades, of olive green and dark brown shades of a darker quality than the red-test skein. Green blindness is proven by the selection of similar confusion colors, but of a quality lighter than the red-test skein.

RULES GOVERNING AURAL STANDARDS.

39. Examinations must develop ability to hear distinctly.

Method of Testing.

Place the candidate at a distance of 20 feet, with one ear toward the examiner; have him close the ear farthest from the examiner by placing the finger over it, then let him repeat aloud the words or numbers spoken in a conversational tone by the examiner and record the distance in feet at which they can be repeated correctly. Have him turn the other ear toward the examiner and repeat the test.

Candidates for employment will not be accepted unless able to hear ordinary conversation the full distance of 20 feet.

No candidate for promotion or reexamination can be considered to have sufficient acuteness of hearing who is unable to repeat, with his eyes closed, words or numbers spoken in an ordinary conversational tone of voice at a distance of 10 feet.

Note.—The following may be used if desired: A ratchet acoumeter.

PHYSICAL DEFECTS THAT DISQUALIFY FOR SERVICE.

40. A careful record shall be made of any physical defects that would impair the usefulness of an applicant for service, or that may be aggravated by service, or that would contribute to the prolongation of disability in case of injury.

41. Among the disqualifying defects are the following:

Medical and Physical.

Diabetes, nephritis, nephrolith, pyelitis, acute and chronic cystitis, lithuresis, valvular heart disease, tuberculosis, active and arrested, evidences of brain, cord, and spinal nerve disease, epilepsy, incapacitating heptatic diseases, venereal diseases, acute and chronic, objectionable skin diseases, defective vision, color blindness, trachoma, or any other eye disease that affects or will affect vision, deafness, chronic otitis media.

Surgical.

Loss of thumb or loss of two fingers on one hand.

Loss of arm, leg, or hand.

Varicose veins of both legs or marked varicosity in one leg.

Phlebitis, hernia, orchitis, epididymitis, hydrocele, undescended testicle, malignant tumor, appendicitis, chronic and recurrent, skull fracture followed by head symptoms, spinal injuries, spinal curvature, severe injuries of the back, ileo-sacral sprain, aneurism, bone necrosis, acute and chronic periostitis, synovitis, floating cartilage, impaired mobility of joints which incapacitates.

42. Applicants for service whose blood pressure is over 150 systolic and who have no other disqualifying physical defects may be given the privilege of another examination, but shall not be accepted for service pending the time in which he takes his second examination, nor shall he be accepted if his systolic pressure continues at 150 or over.

43. Employees in train service or holding other positions in any manner connected with the operation of trains, or who by nature of their employment might because of sudden physical incapacity endanger the lives of fellow employees or others, who on examination for promotion or when periodically examined are found to have a blood pressure of over 175 and less than 200 systolic shall be kept under observation.

44. Employees in train service or holding other positions in any manner connected with the operation of trains, or who by nature of their employment might because of sudden physical incapacity endanger the lives of fellow employees or others, who on examination for promotion or when periodically examined are found to have a blood pressure of 200 systolic or over shall be held out of service pending further physical examination.

HEIGHT, WEIGHT, AND CHEST MEASUREMENT STANDARDS.

45. Applicants for service who on examination present the following conditions, if otherwise mentally and physically fit, shall be unconditionally accepted for general railroad service: (*a*) Those who fall within the accepted standards (A) or minimum requirements (B) for height, weight, and chest measurement given in accompanying tables. (*b*) Those whose weight is greater than the standards indicated for height, provided the overweight is not so excessive as to interfere with the performance of duties connected with the railroad service applied for.

46. Applicants for service who on examination are found to present conditions not within the accepted measurements for weight and chest circumference and mobility given in the table, who are otherwise mentally and physically fit, may be accepted for selected railroad service. But no applicant shall be accepted whose weight is less than 110 pounds. This rule does not apply to applicants for certain classes of service whose minimum age limit is under 18 years.

47. Table of standard accepted measurements of height, weight, and circumferance of chest.

A. Standard accepted measurements.

Height.	Weight.	Chest measurement.	
		At expiration.	Mobility.
60	120	31	2
61	120	31	2
62	120	31	2
63	124	31	2
64	128	32	2
65	130	32	2
66	132	32½	2
67	134	33	2
68	141	33¼	2½
69	148	33½	2½
70	155	34	2½
71	162	34¼	2½
72	169	34¾	3
73	176	35¼	3
74	183	36¼	3
75	190	36¾	3¼
76	197	37¼	3½
77	204	37½	3¾
78	211	38¼	4

B. The following variations from the standard shown in column A are permissible when the applicant is active, has firm muscles, and is evidently vigorous and healthy.

Height.	Weight.	Chest measurement.	
		At expiration.	Mobility.
60	110	30	2
61	110	30	2
62	110	30	2
63	116	30	2
64	120	30	2
65	120	30	2
66	120	30¼	2
67	120	30½	2
68	121	30¾	2
69	124	31	2
70	128	31¼	2
71	133	31¾	2
72	138	32¼	2½
73	143	32¾	2½
74	148	33¼	2½
75	155	34¼	2¾
76	161	34¾	2¾
77	168	35¼	3
78	175	35¾	3

Directions for taking height.—Use a board at least 2 inches wide by 80 inches long, placed vertically, and carefully graduated to one-quarter inch between 58 inches from the floor and the top end. Obtain the height by placing horizontally in firm contact with the top of the head and against the measuring rod an accurately squared board of about 6 by 6 by 2 inches—best permanently attached to graduated board by a long cord. The applicant should stand erect with back to the graduated board, eyes straight to the front.

Exhibit F.

SURVEY AND RECOMMENDATIONS CONCERNING THE CONTROL OF MALARIAL FEVER.

The committee visited a number of malarial regions in the Southern States and found embankments without adequate culverts impeding the natural flow of waters; borrow pits created many stagnant pools; and poorly maintained lateral drains; these conditions offered favorable opportunities for the breeding of Anopheles mosquitoes, which are directly concerned in the transmission of malaria.

Much work to eliminate these conditions has already been done on the St. Louis-Southwestern and Louisville & Nashville Railroads. Figures were given the committee by railroad officials at Texarkana which indicated that the incidence of malaria and the sick rate at the railroad hospital at Texarkana, was greatly reduced by the antimalarial measures carried out. In some instances it is estimated this reduction has reached 75 per cent.

In view of the results which have already been achieved, it is apparent that the control of malarial fever is not only humanitarian but is highly profitable for the railroads. The committee recommended that in territories in which malaria occurs, the railroads make a special effort to cooperate with Government officials to reduce malarial mosquito breeding.

The measures employed by the St. Louis-Southwestern Railway are especially commended and the committee believes their plan is a good model to follow.

It is of interest to mention there was reported in a recent number of the United States Public Health Service reports that over 7,000 new cases of malaria occurred in the State of Louisiana in the month of May, 1919. Judging by the statements of the surgeons of the Illinois Central Railroad Hospital at New Orleans, it is a reasonable assumption that a large percentage of these cases occurred among railroad employees. Similar conditions probably prevail in other States in which malaria occurs. The railroad officials in regions in which malaria has been reported are in favor of carrying out measures to combat it. Experience so far has shown that breeding places need only be eliminated within several hundred yards of human habitation.

Exhibit G.

SEPARATION OF CLAIMS AND SURGICAL DEPARTMENTS.

It would almost seem needless to comment on this recommendation, except to say that a number of surgical departments are directly under the control of and surgeons appointed by the claims or legal departments; and in consequence the doctor is valued not so much because of his ability or skill but because he has a capacity to handle employees from a claims standpoint.

Six of the regional directors have expressed their concurrence in the views of the committee; one has opposed it—a letter of explanation was written in reply to his objections June 13, 1919, and no further comment has been received from him.

In view of the fact that six of the regional directors have concurred in the recommendation and possibly only one is opposed, it is recommended that the separation of the claims and surgical departments on all railroads be carried into effect.

Exhibit H.

GRANTED PRIVILEGE OF TRIP TRANSPORTATION TO RAILWAY LOCAL SURGEONS TO ATTEND MEDICAL AND SURGICAL MEETINGS AND CLINICS.

Trip transportation for local surgeons has been granted over so-called foreign lines in order that they might attend medical and surgical meetings and clinics.

Recommendation was based on the opinion that local surgeons should be given opportunity to advance their knowledge and thereby increase their efficiency in railroad service.

Local surgeons are at this time taking advantage of the privilege, and the committee feels that the favorable action of the United States Railroad Administration by giving opportunity to railroad surgeons to keep in touch with the latest methods in surgery and medicine will be of greatest advantage to all concerned.

Exhibit I.

SURVEY OF INSPECTION OF REST HOUSES WITH RECOMMENDATIONS.

Feeling it most essential that men in train service should obtain proper rest and accommodations while at terminal points away from home, and that rest rooms, sleeping quarters, and feeding places where furnished for this purpose would probably be accepted by the employees as a standard of living conditions satisfactory to the railroads, the committee made recent inspection of rest houses on several of the railroads, eastern territory, taking it for granted that this would give it the opportunity to inspect the best. The inspection included also railroad YMCA's.

We found the run of rest houses were placed more because of convenience to work than with the view of obtaining cleanliness, fresh air, freedom from noise, etc. In the main, while the buildings were not placed to best advantage, we found them capable of being made fairly comfortable. The maintenance with exception of very few instances was next to deplorable.

As the result of our inspection we submit the following observations and recommendations:

1. The surgical and medical departments of the railroads should be charged with the absolute responsibility of maintaining proper sanitary and cleanly conditions, and the railroads should insist upon regular inspections at frequent intervals by medical inspector.

2. Too much stress can not be laid upon the necessity of selecting an intelligent, active janitor, with sufficient help to keep rest houses clean and wholesome. He should be responsible to the medical inspector. (In our opinion this is not a pensioner's job.)

3. Clean towels, clean bedding, soap—in ample quantities should be supplied. (Note.—Instructions generally found were to the effect: "That bed linen must be changed when necessary." This was left to the judgment of the janitor in control. In some instances it was changed every two or three days, in other instances weekly, and again at longer periods.)

4. Sleeping quarters shall be kept quiet and the calling system so cared for that the men needed are called.

5. For general sanitary arrangements and maintenance, see set of rules and regulations also submitted.

6. Inspection of kitchens and refrigerators and manner in which food was handled ranged from fair to very bad.

7. The committee does not favor the dormitory system of sleeping quarters. It is difficult to call men without waking other sleepers. One or two noisy individuals can distrub a whole room.

We do not believe there is any advantage to be gained from the standpoint of better ventilation and light. For your information, the hospitals are gradually eliminating the largeward system.

8. The committee believes that unless the rest rooms, sleeping quarters, and restaurants in general are kept in better condition than most of those we saw, that the railroads would do well to discontinue the practice where possible. If, on the other hand, cleanliness and high standards are maintained and respect for reasonable rules and regulations is insisted upon, we believe the outlay will bring a fair return, and if maintained in manner recommended, will certainly remove one source of irritation that at present time there is considerable justification for.

EXHIBIT J.

SURVEY AND RECOMMENDATIONS REGARDING PRACTICE OF LAYMEN BEING USED TO MAKE VISION, HEARING, AND COLOR EXAMINATIONS OF RAILROAD EMPLOYEES.

In making a general survey of various railroads under jurisdiction of the United States Railroad Administration we have found to date that a number of roads have laymen conducting examinations on eyesight, hearing, and colors, and a few require no examination on eyesight, hearing, and colors. A review shows the unanimous opinion of chief surgeons, and also experts not associated with railroad service that such practice is considered unsafe and should be discontinued.

While the committee does not wish to convey the impression that a layman could not be trained to make these examinations safely, we believe that trainmasters, chief despatchers and other laymen making examinations are so occupied by their important duties that they do not have the opportunity to obtain the technical knowledge which is actually required to make these examinations properly. Nor can we understand the advisability of having these laymen undertake the necessary study when a competent physician is always available for this work. It occurs to us that trainmasters and chief despatchers who may be required to make investigations of train accidents might be placed in a very embarrassing position if it were found that an engineman whom they had passed as satisfactory on colors had caused a wreck as a result of color deficiency.

Finally, it is the opinion of the committee that the practice is certainly more likely to lead to error, and it would appear it is the duty of railroads to reduce to a minimum all possible chances of error.

Therefore, we recommend examinations on vision, hearing, and colors be made by competent medical men.

Summary of replies from regional directors on this subject follows:

Eastern Region.—Mr. Hardin advises that canvass of the Eastern Region indicates considerable number of roads have been conducting color examinations by laymen with entirely satisfactory results: that these laymen who are usually trainmasters or their assistants, or on the larger roads, a man assigned for this purpose, are qualified by the company oculist and are provided with necessary equipment; and as they are constantly conducting these examinations they naturally become quite proficient.

In this connection, Mr. Hardin takes exception to the attitude of the Committee; he feels that as these laymen have been most carefully trained, it is a serious matter to make a charge of this kind in the records without supporting data, and asks if Dr. Dunott can give any facts in the way of accidents or other incidents which warrant his statement.

Allegheny Region.—Mr. Markham states that on the principal lines in his region all examinations for eyesight, color sense, and hearing are made by medical examiners who are qualified physicians.

Pocahontas Region.—Mr. Maher advises that with the exception of the Chesapeake and Ohio of Indiana the roads in his region have been conducting these examinations through trainmasters, etc., and that the results have been reasonably good. He recommends, however, that such examinations be conducted by the medical examiners of the relief and pension department on roads having such an organization and by the company physicians on lines where no relief or pension department exists, as he feels that this will result in less liability of error. The Indiana law requires employees entering railroad service to undergo physical examination and secure certificates from a physician. These examinations include vision, color perception, etc.

Southern Region.—Mr. Winchell states that it is the practice on railroads in his region to have such examinations conducted by examining surgeons or oculists, and he considers it desirable that the present practice be continued.

Northwestern Region.—Mr. Aishton's report shows that out of 43 roads, 26 of them have color sense examinations conducted by a licensed physician, 9 by laymen, and on 8 smaller lines no color tests are required. Mr. Aishton personally feels that examination of color sense should be conducted by duly qualified physicians but does not believe there is any real justification for making any change in practices existing on some lines.

Central Western Region.—Advice from Mr. Holden is that the majority of Federal and general managers of roads in his region favor examinations of this nature being conducted by trained medical examiners.

Southwestern Region.—With two exceptions (Litchfield and Madison and Terminal Railroad Association) these examinations are conducted by qualified physician or oculist on all roads in this region. In Mr. Bush's judgment this is the desirable method, and he advises that instructions have been issued to Terminal Manager Johnson that future examinations on the Litchfield and Madison and Terminal Railroad Association should be made by a qualified physician or oculist.

Note.—The committee believes that the field test on colors is unsatisfactory and liable to many errors and should be discontinued.

Exhibit K.

FIRST AID.

Committee examined a large number of first-aid kits and gave the whole matter special study. As a result of this study, the following simple kit was evolved:

A black Japanned tin box with beaded edge so that the cover would fit tightly and do away with the necessity of a hasp and staple to fasten it; size 8½ inches long, 5½ inches wide, and 4 inches deep.

The contents would be—

18 sterilized finger dressings, each in separate envelope suitably printed in accordance with specifications.
12 large dressings, each in separate envelope suitably printed in accordance with specifications.
3 triangular bandages.
1 spool oxide of zinc adhesive plaster 1 inch by 5 yards.
5 small requisition cards.
1 instruction folder.

The total cost would be $1.95 net per box.

The cost is based on estimate of 5,000 outfits.

The costs of the individual items are as follows:

The tin box with outside label and inside label on cover	each	43
18 finger dressings, 3 cents each		54
12 large dressings, 5 cents each		60
3 triangular bandages, 8 cents each		24
1 spool adhesive plaster	each	12
5 requisition cards		1
1 instruction folder		1

The above description of box and contents with estimate of cost submitted by Seabury & Johnson, 59–61 Maiden Lane, New York City.

Below is given estimate cost of a stronger and easier carried box at a small additional cost, submitted by American Can Co., Oak and Twenty-sixth Streets, Baltimore, Md.:

Oblong, hinge cover box, double seamed bottom, body beaded, top edge of body hemmed, size 8½ inches by 5½ inches by $3\frac{7}{16}$ inches body height, *hasp on cover* and *staple on body*, cover decorated in one print on a coat, body and bottom plain coated all inside and partitions plain coated, *with oval wire handle in center of cover*. In lots of 5,000 at $516.75 per thousand.

If cover is decorated on inside also in lots of 5,000 at $522 per thousand f. o. b. Brooklyn, N. Y., subject to 1 per cent cash discount 10 days from date of invoice 30 days net. There will be a charge for special preparation of engraving on the initial order.

Estimate cost of first-aid kit submitted by Johnson & Johnson, New Brunswick, N. J.; the box conforms to the description given of box in estimate of American Can Co.; similar box can be procured from Seabury & Johnson at a small additional cost over box described in their estimate:

These complete outfits we quote you in quantities of 5,000 and upward for reasonably prompt acceptance at $2.12 each.

As requested by you we also quote as follows the various items of contents as well as the empty case:

Empty container	$0.62
18 small gauze pads, folded with tape, each in sealed envelope at	.33
12 large gauze pads, folded with tape, each in sealed envelope at	.54
3 triangular bandages with pins, sealed	.35
1 spool ZO plaster 2 inches by 5 yards	.26
6 requisition cards	.01
1 first-aid instruction book	.01

In addition to the above prices the metal manufacturers advise us that there will be a charge of $105 for tools used in the manufacture of these cases, but that this amount would be absorbed by them in the event that they receive an order for the tins aggregating 25,000; therefore, on orders for less than 25,000 it will be necessary for us to make a special charge of $105 in addition to the price of the goods.

It is our recommendation that these kits be placed on all passenger trains, engines, cabooses, in shops, and railroad construction camps.

We have purposely eliminated all drugs, believing them inadvisable and in many instances dangerous.

If our suggestions as to the method of maintenance are strictly adhered to, and the employees to whom the kits are turned over are charged with the responsibility of seeing the kits are properly maintained as arranged for, I believe you will find that this will counteract one of the greatest objections that has been raised to the first aid kit in railroad service, viz, maintenance.

It is our recommendation that first-aid package now in use on Pullman cars be continued as "their first-aid equipment;" such packages are satisfactory for Pullman cars but impracticable for cabooses, engines, shops, cars, etc., due to the fact that they are put up in a pasteboard carton, which is easily soiled and destroyed.

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